

## About this Book

*CelloMind* is a two-part pedagogical method book that focuses on intonation and left-hand cello technique, containing thorough explanations and practical examples to enhance and elevate your cello playing.

In Part I, "Intonation," the mystery of intonation is revealed by defining the scientific principles behind it, and providing easy, intuitive examples of each concept. Understanding intonation theories will improve your ability to play in tune and guide you to cultivate and sharpen your skills.

Part II, "Left-Hand Technique," is a journey through various left-hand technique exercises. The many examples will teach you how to play faster, shift with greater accuracy, and develop proper left-hand balance in all positions.

Making *CelloMind* a part of your daily practice routine will inspire you to become a much more knowledgeable and proficient cellist.

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## Hans Jørgen Jensen

Hans Jørgen Jensen, Professor of Cello at Northwestern University Bienen School of Music, is the recipient of numerous honors and awards, including the 2010 Artist Teacher Award from the American String Teacher's Association (ASTA), the Presidential Scholars Program Teacher Recognition Award from the U.S. Department

of Education, and the Danish Music Critics Award in Copenhagen, one of Denmark's most prestigious awards. Professor Jensen has performed and taught master classes across the United States, as well as in Canada, Australia, Brazil, Europe, Israel, Japan, and South Korea. Many of his students are first-prize winners in numerous national and international competitions, as well as members of major U.S. orchestras and leading music schools.

Professor Jensen is also a faculty member of the Robert McDuffie Center for Strings at Mercer University, the Young Artists Program at the National Arts Centre in Ottawa, Canada, and the Meadowmount School of Music in Westport, New York. Jensen studied at the Royal Danish Academy of Music in Denmark with cellist Asger Lund Christiansen, and at the Juilliard School with Leonard Rose and Channing Robbins.



## Minna Rose Chung

Korean-American cellist Minna Rose Chung is Professor of Cello at the Desautels Faculty of Music, University of Manitoba. She has been the teaching assistant to Hans J. Jensen at Northwestern University and the Meadowmount School of Music. Dr. Chung earned her degrees in cello performance at Oberlin

Conservatory of Music (B.Mus.) with Norman Fischer and Peter Rejto, Northwestern University Bienen School of Music (M.Mus.) with Hans Jørgen Jensen, and SUNY Stony Brook University College of Arts and Sciences (D.M.A.) with Colin Carr.

Dr. Chung continues to enjoy an international career in all performance milieus (solo, chamber, and orchestral), has taught master classes across four continents, and is a frequent guest artist at music festivals worldwide. After moving to Canada, Dr. Chung was quickly reviewed as "a bright light, her intelligent musicality and rich resonance a wonderful addition to any ensemble" (*Winnipeg Free Press*). Dr. Chung is the recipient of numerous awards, including the University of Manitoba's Rh Award for Outstanding Contributions to Scholarship and Research (Creative Works). In addition to academia, Dr. Chung regularly tours with her established Desautels Piano Trio and performs with the Manitoba Chamber Orchestra, "Canada's tiny, perfect chamber orchestra" (*Toronto Star*).

CelloMind

Intonation and Technique

Hans Jørgen Jensen / Minna Rose Chung

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# How to Use This Book

This book is separated into two parts:

- I. Intonation
- II. Left-Hand Technique

Part I on intonation should be studied in the order the chapters are presented (unless you are already familiar with the material) as the concepts in each chapter build on one another. In contrast, the chapters in Part II on technique are mostly composed of separate and independent studies of left-hand cello techniques. As such, it is perfectly fine to study them in any order (with the exception of the shifting studies in Chapters 23–25), depending on your skill level.

As a general rule, we recommend practicing a minimum of 20 minutes per day on a section of one chapter, with a smaller percentage of the allocated time to study the other sections. For a more intensive practice session, dedicate 15–20 minutes per day on each of the three core subjects: intonation, left-hand technique, and double stops. If you have any additional time, explore the practical repertory examples. However, we recommend to not exceed an hour per day of study on this material.

## Healthy Practicing

One of the most important aspects of practicing a musical instrument is to use healthy, efficient biomechanical movement patterns when practicing and playing. The “no pain, no gain” philosophy can be very dangerous; it should not be part of our vocabulary.

Remember to perform proper warm-ups and cool-downs before and after practicing. Give yourself adequate time for taking breaks. Also, switching back and forth between different repertory and technique studies can help with concentration and fatigue. Over-practicing one kind of technique can lead to injury or other issues, even when done the right way.

Treat your body and mind with the utmost intelligence and respect, and know when enough is enough.

## Routine and Goal-Setting Strategies

*“Many people fail in life, not for lack of ability or brains or even courage but simply because they have never organized their energies around a goal.”*

— Elbert G. Hubbard

Goal setting is a powerful tool for building both long-term vision and short-term motivation. High-performing achievers use it in almost all fields, including music and sports.

## Your Slight Edge

Consistency is one of the most powerful tools for long-term development. Maximizing the use of small amounts of time will make your practice more productive, effective, and efficient. People often want to see results immediately, not realizing what they can achieve when building up a skill over a number of days, weeks, months, and years.

The **Slight Edge**<sup>1</sup> is a philosophy promoted by personal development coach Jeff Olson that focuses on leveraging small, daily disciplines to create substantial results and success over the long term.

Consider the following:

- 1 minute each day becomes 6 hours in one year
- 10 minutes each day becomes 60 hours in one year
- 30 minutes each day becomes 180 hours in one year

Select which skills you want to focus on, and spend a short amount of time on those skills each day. Be disciplined and creative in the way you spend your practice time—even for just a few minutes. As you improve in a particular skill, your method of practicing that skill should change.

We have designed this book to be a custom-made source of information for intonation and left-hand technique. It is our hope that each person using this book will select a topic and chapter they need to explore further, and then take the necessary time to master that chapter or chapters before moving on to the next topic.

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1 Jeff Olson, *The Slight Edge: Secret to a Successful Life*. (Momentum Media, division of VideoPlus, L.P., 2005).

"Sensitizing your ears to the sympathetic vibrations will sharpen the way you perceive pitches."

— Hans Jørgen Jensen

## Chapter 16: Advanced Sympathetic Vibrations

Earlier in this book, we introduced the basics of **sympathetic vibrations**. Now, let's look at more advanced examples beyond the tonic. The charts in this chapter illustrate the most important harmonics of the open strings that can be activated by sympathetic vibrations.

Being able to visualize the sound and placement of all fundamental pitches on the cello that fully activate the overtones is an invaluable skill to have. Developing this refined inner hearing will sharpen the way you perceive pitches and how you navigate the entire fingerboard.

### Activation of Partial

Knowing which partial should be activated is the key to navigating the placement of the solid tone. The 5th partials are 14 cents lower and the 7th partials are 31 cents lower when compared to equal temperament. When placing solid notes that activate those partials, the solid pitch *must* be placed lower. In the following example, you will be able to hear and experience how three different placements of the F natural in first position on the D string will activate three different overtones.

#### Exercise 16.1 The Three F Naturals on the D String

The F natural on the D string can activate three different partials, depending on the placement of the F.

- The F that tunes with the A string is a just major third and is 386 cents.
- The F that tunes with the C string is the Pythagorean F and is 408 cents. The difference between the two Fs is 22 cents, the **syntonic comma**.
- The F that tunes with the G string is 431 cents *under* the open A string. The difference between this and the equal-tempered major third is 31 cents.<sup>1</sup>
  - This F needs to be lowered almost a quarter tone compared to the first F that tunes with the A string.

<sup>1</sup> Look in Appendix III for exact cent amounts for the 7th partials on the cello.

"Having an artistic and intuitive awareness of just, Pythagorean, and equal-tempered intonation creates a very sophisticated system for greater artistic expression. The final decision lies in the ever-sensitive ear of the musician."

— Hans Jørgen Jensen

## Chapter 17:

# Intonation Performance Practice in the Bach Solo Cello Suites

Just intonation plays a major role in the J. S. Bach Suites for Violoncello Solo BWV 1007–1012 due to the frequent use of double stops, chords, and the harmonic aspects within the composition. Using the just intonation system lends a very beautiful, authentic sound to the music, and is highly recommended for those with a strong preference for Baroque and Early Classical performance practice, as it was used and advocated during this time period.

Today, most cellists use a combination of Pythagorean, just, and equal-tempered intonation within the Bach solo cello suites to suit their individual tastes and musical expression. Equal-tempered intonation in its purest form is not often used on the cello, but tempering of intervals is common. As an example, when two open strings (A and C) are part of the harmonic landscape, cellists may prefer to use the equal-tempered E that is positioned between the E that tunes with the 5th partial E of the C string and the E that tunes with the 3rd partial E of the A string.

In this chapter, we have selected examples from the Bach solo cello suites to show and explain how the different systems work together.

The musical exercises that follow are organized into four categories:

1. Just intonation tuning for single-line chords
  - a. When the music is written with single notes but structured in a chordal manner, just intonation will provide the best resonance.
2. Just intonation tuning for double stops and chords
3. Pythagorean intonation tuning for melodic sections
  - a. Using Pythagorean intonation creates a stronger gravitational pull between the intervals, allowing the music to be more expressive.
4. Combination of just and Pythagorean tuning

"Placing your fingers with your entire arm-hand unit eliminates excessive and stressful finger movements."

— Victor Sazer<sup>1</sup>

## Chapter 19: The Light Touch

The light touch is a key element in fluid left-hand technique and a critical element of cello playing. All too often, excessive tension in the fingers and squeezing of the left hand become a hindrance for many cellists, and it can lead to a heavy left hand that presses and hits the strings too loudly. A light touch and the awareness of "touch and release" facilitate an overall superior technique, including increased freedom of movement, precise shifting, and the ability to play fast with less effort. One or two weeks of practicing the simple exercises in this chapter will do wonders to help you become aware of the importance of a light touch.

### Harmonic and Fingerboard Levels, Second Finger Balance

In this first exercise, we look at the difference in technique and the application of weight between the fingerboard and harmonic levels.

- **Fingerboard level:** Apply your natural arm weight into the string, allowing your finger to lightly touch the fingerboard.
- **Harmonic level:** Touch the string lightly on top using the inside (right side) of the string. Feel the release of your arm weight when moving from the fingerboard to the harmonic level.

<sup>1</sup> Victor Sazer, *New Directions in Cello Playing*, 3rd Revised Edition. (Ofnote, 2003), 121.

"Everyone has the ability to play quickly, but it must be discovered and developed.... I suggest starting by concentrating on each beat. As you gain confidence, think about larger units to get the bigger picture."

— Tsuyoshi Tsutsumi<sup>1</sup>

## Chapter 20: Velocity Studies

Playing fast is an important skill to master, and special practice techniques are required to develop this skill. The movement patterns used for slow playing and fast playing are different. In slow playing, it is possible to focus on each movement. However, in fast playing, a number of movements are grouped into one impulse.

In order to play fast, it is necessary to have the ability to move up, down, and across the fingerboard with great ease and precision. To develop this dexterity, the following movements must be learned and practiced until they feel natural.

Movements for the left hand:

1. A lifting and dropping motion of the fingers, supported by a forearm rotation.
2. A fluid shifting technique.

Movements for the bow arm:

1. An efficient forearm *détaché* and *sautillé* for separate bow strokes.
2. A controlled legato bowing for slurred notes.
3. A coordinated bow arm for combination strokes (slurred and separate bows).

### Impulse Units

We use the term **impulse unit** to refer to giving a single impulse to a group of notes. This concept can help with keeping faster passages under control.

Impulse units can be practiced and used in a variety of ways. In the beginning when learning a new work, it can be helpful to use *more accents and impulses* to organize and coordinate the two hands and fingers in fast passages. As you learn these passages and progress toward the performance stage, reliance on using impulse units decreases as they become a more natural part of your playing and part of your subconscious. Our thoughts and efforts should be focused on shaping the overall structure of the music and communicating that to the audience.

1. Using impulse from the left arm/hand/fingers:
  - a. Fingertip impulse helps with organizing fast runs and passages into controlled groupings.
2. Using impulse from the bow arm:
  - a. Assists the left hand in organizing fast passages into groupings.
  - b. Helps with coordinating the two hands.

<sup>1</sup> Tsuyoshi Tsutsumi, "How to Play Fast Passages without Tension, by Cellist Tsuyoshi Tsutsumi," *The Strad*, January 12, 2015. Available at: <http://www.thestrads.com/cpt-latests/play-fast-passages-without-tension-cello-tsutsumi/>.



## Chapter 23:

# Introduction to Shifting

Having a solid shifting technique is one of the most important aspects of playing a string instrument. When mastered, it should be a very simple and natural part of your total technique. A great cello technique should be mostly autonomous so that the greater amount of concentration and energy is directed toward artistic and expressive purposes.

The four main elements of shifting are:

1. Visualization
2. Preparatory movements for shifting
3. Shifting motions, of which there are three types
4. The four finger categories

## Visualization

Visualization is a tool that we are accustomed to using all the time before doing just about anything. It is mostly triggered automatically without any conscious awareness. For example, if you are thirsty and want a drink, you imagine drinking water; before you realize it, you have a cup of water in your hand.

Similarly, when throwing a basketball toward the net, first you imagine the ball going into the net and see in your mind the movement required to make the shot.

When practicing and cultivating a solid shifting technique, it is important to spend time developing clear mental images of how the shift should sound, feel, and look. Auditory, kinesthetic, and visual images will help with this visualization process. When shifting is mastered, these individual mind-sets come together to form a unified visual image.

### Auditory Image

- The more vivid and specific the auditory image, the more secure your shift will be.
- Hearing the whole passage in your mind—including the note before the shift, the shift itself, and the arrival note—will make the shift more accurate.
- The auditory image of the exact pitch or pitches should include the tone color, vibrato, and volume.

### Kinesthetic Image

- Imagine the feel of the bow on the string, the weight of your arm, and the amount of resistance from the strings.
- Perceive the feel of your left hand and fingers touching the string and the fingerboard.
- Let your ear guide the movement of the hand and arm along the fingerboard

### Visual Image

- See in your mind's eye exactly how your body, arms, and hands look and move before, during, and after the shift.