Stretching for Pain-Free Performance

BY ANDY HARNSBERGER

Imagine life without the use of your hands. We use our hands so instinctively in our day-to-day life (especially as percussionists) that it is natural to sometimes take their health for granted. But because they are made up of a complex structure of muscles, bones, ligaments, tendons, and nerves, your hands are prone to damaging conditions such as repetitive stress injury, carpal tunnel syndrome, and tendonitis.

The inside of the wrist contains tunnels, called carpal tunnels, through which the major nerves median, ulnar, and radial pass. This "median" nerve, which controls motor and sensory distribution in the hands and fingers, is sometimes compressed. Constant pressure on the carpal tunnel can obstruct proper blood flow and nerve transmissions to the hands and fingers causing numbness and tingling. This condition is referred to as Carpal Tunnel Syndrome. Compression of the median nerve can be caused by tendonitis or a combination of flexed wrist with significant grip force requirements and repetitive movements – the same types of motions we use as percussionists. These stresses are commonly associated with cumulative trauma disorders of the hand and wrist, known as Repetitive Stress Injury.

Carpal Tunnel Syndrome and Repetitive Stress Injury symptoms are marked by pain, inflammation, and numbness and tingling. RSI can be the result of repetitive finger motions and/or extended muscle contractions in the forearm and wrist; it can be aggravated by playing percussion instruments, as well as other daily activities.

In a previous article, "Don't Forget to Warm Up!" I discussed daily warm-ups and technical exercises for the marimba. I mentioned that you are using very delicate muscles and these muscles need to be warmed up BEFORE you use them. Just as athletes incorporate stretching into their warm-up routine, so should you stretch before you start to play.

I am speaking from experience. Throughout my career, I have had numerous problems with my hands and wrists. I have had Ganglion Cysts on both of my wrists, torn the muscles in both thumbs, and been diagnosed with Carpal Tunnel Syndrome and Repetitive Stress Injury - all of which can be the "kiss of death" if you make your living as a performer. After talking with several specialists, I attributed most of my problems to not stretching and/or not warming up and practicing properly. I knew that if I wanted to continue performing often, I would have to change my habits. Now I follow these three simple rules: stretch/warm-up slowly, practice slowly, and ice my hands at the end of the day to take care of any swelling that has accumulated during the course of practice sessions. When I do these things consistently, my symptoms disappear, and I can practice and perform for hours. When I neglect these things, my hands and wrists get overworked and I experience the pain associated with the ailments listed above.

In our profession, our wrists and hands are going to be overworked on a daily basis. That is just the nature of our business. Exercise cannot prevent these injuries – and if you are in the midst of a flare-up, a workout or a practice session may aggravate it. However, if you are NOT already experiencing symptoms, stretches for the hands, arms, and shoulders can help. I am not a medical doctor, so if you are experiencing problems, you should consult a professional. I have found that putting ice on my hands and wrists is an excellent way to decrease the symptoms of Carpal Tunnel Syndrome, Tendonitis, and Repetitive Stress Injury. Taking a small amount of vitamin B-6 (50 mg) will also help increase circulation to the nerve endings. The following stretches were designed by Michelle Hill, OTR/L, a certified occupational therapist in Nashville, TN. These are stretches that have worked wonders for me. Do these moves before your practice sessions, before you pick up a stick or mallet. You should never feel pain when doing these exercises, just a gentle stretch.

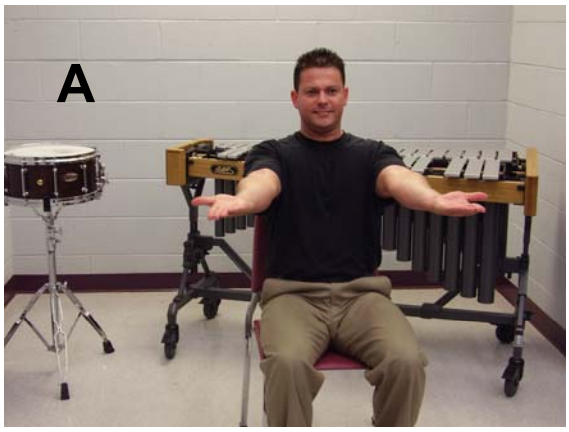
Stretching for Pain-Free Performance

1. Shoulder and Hand Stretch: Lace your fingers together and turn your palms away from your body as you extend your arms forward at chest level, keeping your shoulders back and down. Hold for 10 seconds, then lower your arms to your sides and repeat 5 times. *Stretches the shoulders, forearms, and fingers.*

2. Overhead Stretch: Lace your fingers together and turn your palms away from your body [A], then extend your arms overhead, allowing your elbows to bend slightly [B]. Hold for 10 seconds, then lower your arms and repeat 5 times. *Stretches the upper torso, shoulders, and fingers.*

3. Arm Stretch: Hold your right arm straight out in front of you and bring it across your chest toward your left shoulder. With your left hand, grab behind your right elbow and stretch your arm across your chest. Hold for 10 seconds, lower your arms, and repeat on the opposite side. Repeat 5 times. *Stretches the back of the arms and shoulders.*

4. Wrist Warm-up: Sit with your arms at your sides and your elbows bent to 90 degrees. Without moving your upper arms, turn your hands so your palms face upward toward the ceiling [A], then downward, toward the floor [B]. Repeat 5 times. *Gently warms up the wrists and forearms.*



5. Advanced Wrist Warm-up: Extend your arms in front of you, turn your hands so your palms face the ceiling, turning your elbows as far as they can go [A], then in the opposite direction, so that your palms are facing opposing walls [B]. *Stretches the wrists, elbows, forearms, and shoulders.*

6. Wrist Stretch: Extend your right arm in front of you and bend your wrist back. With your left hand, reach across and grab the tips of your fingers on your right hand. Gently pull the fingers back toward your body. Hold for 10 seconds, lower your arms and repeat on the opposite side. Repeat 5 times. *Stretches the wrists, forearms, and fingers.*

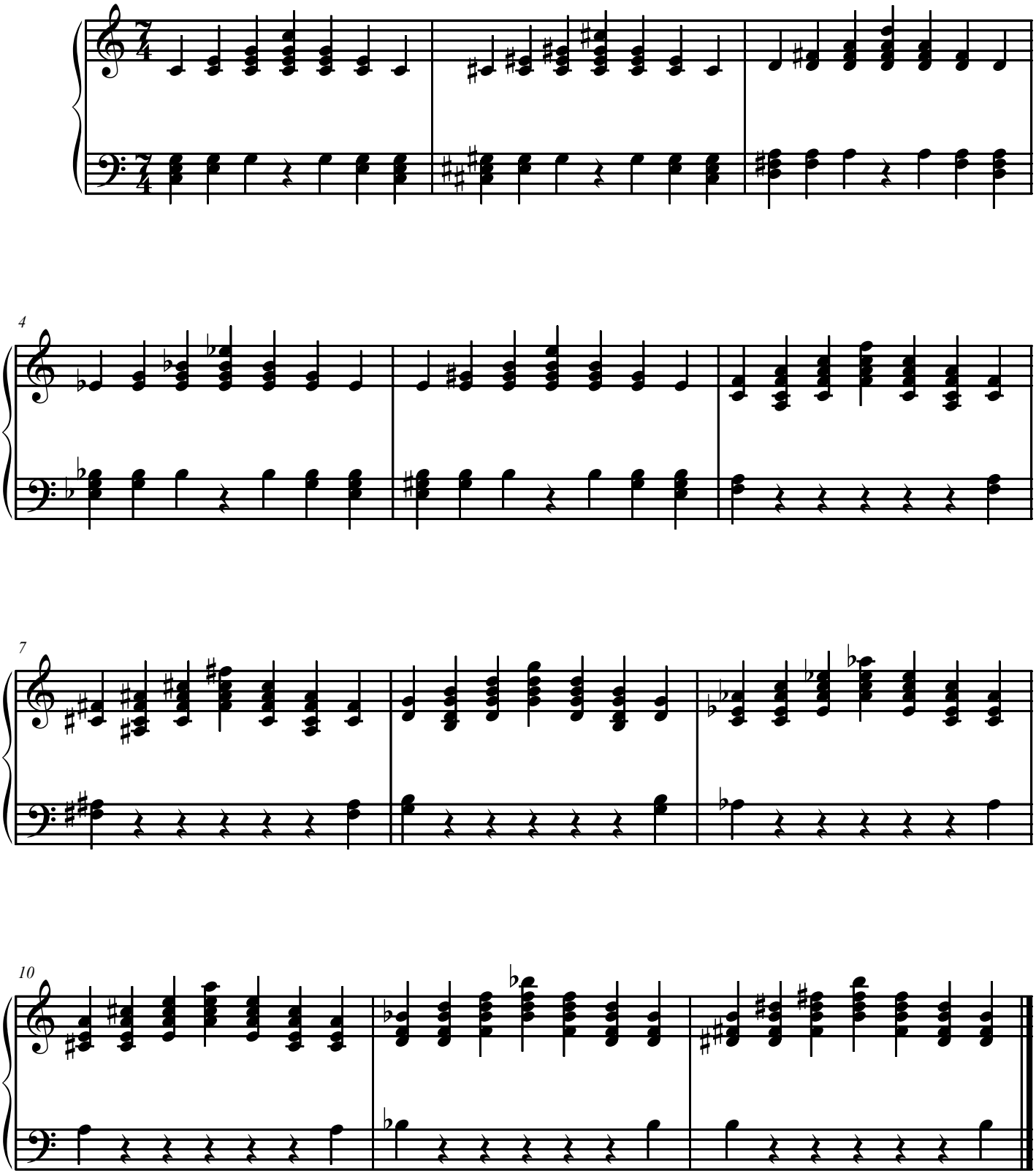
7. Hand Warm-up: Raise your arms to chest level, elbows slightly bent. Make a fist with both hands [A], then extend your fingers, spreading them out and apart without strain [B]. *Gently warms up the hands and fingers.*

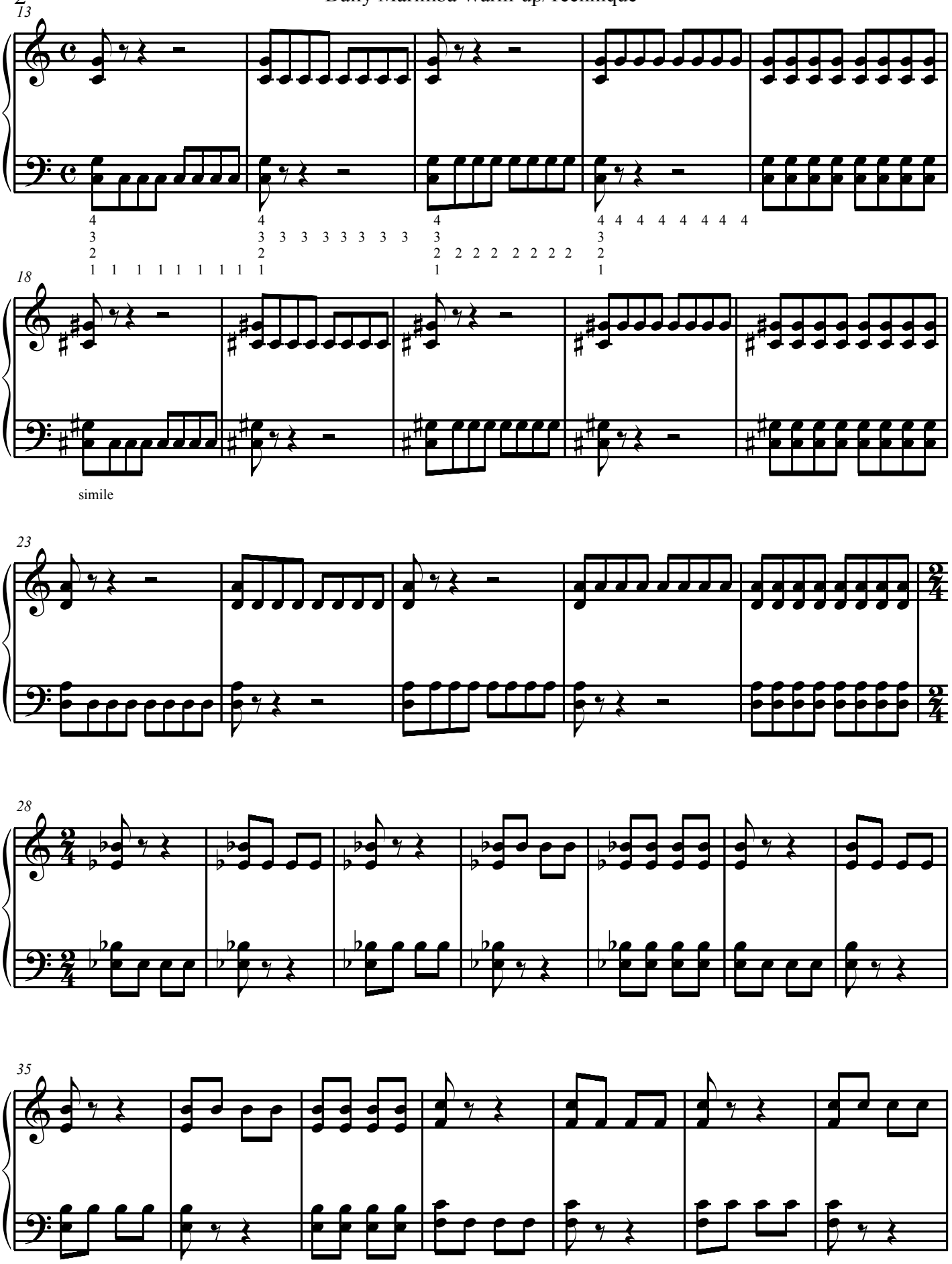
The Author: ***Andy Harnsberger*** *resides in Cleveland, Tennessee and is active throughout the year as a freelance percussionist and recitalist, performing approximately 50 concerts per year. He is also in demand as a clinician across the country, presenting workshops and masterclasses at many universities each year. Dr. Harnsberger earned his Doctorate of Musical Arts in Performance and Literature at the Eastman School of Music in Rochester, New York, where he also received the prestigious Performer's Certificate. He has been Director of Percussion Studies at Lee University in Cleveland, TN since 1997. Andy is a performing artist and clinician for the Pearl Drums and Adams Musical Instruments, Innovative Percussion, Inc., and Sabian Cymbals, Ltd.*

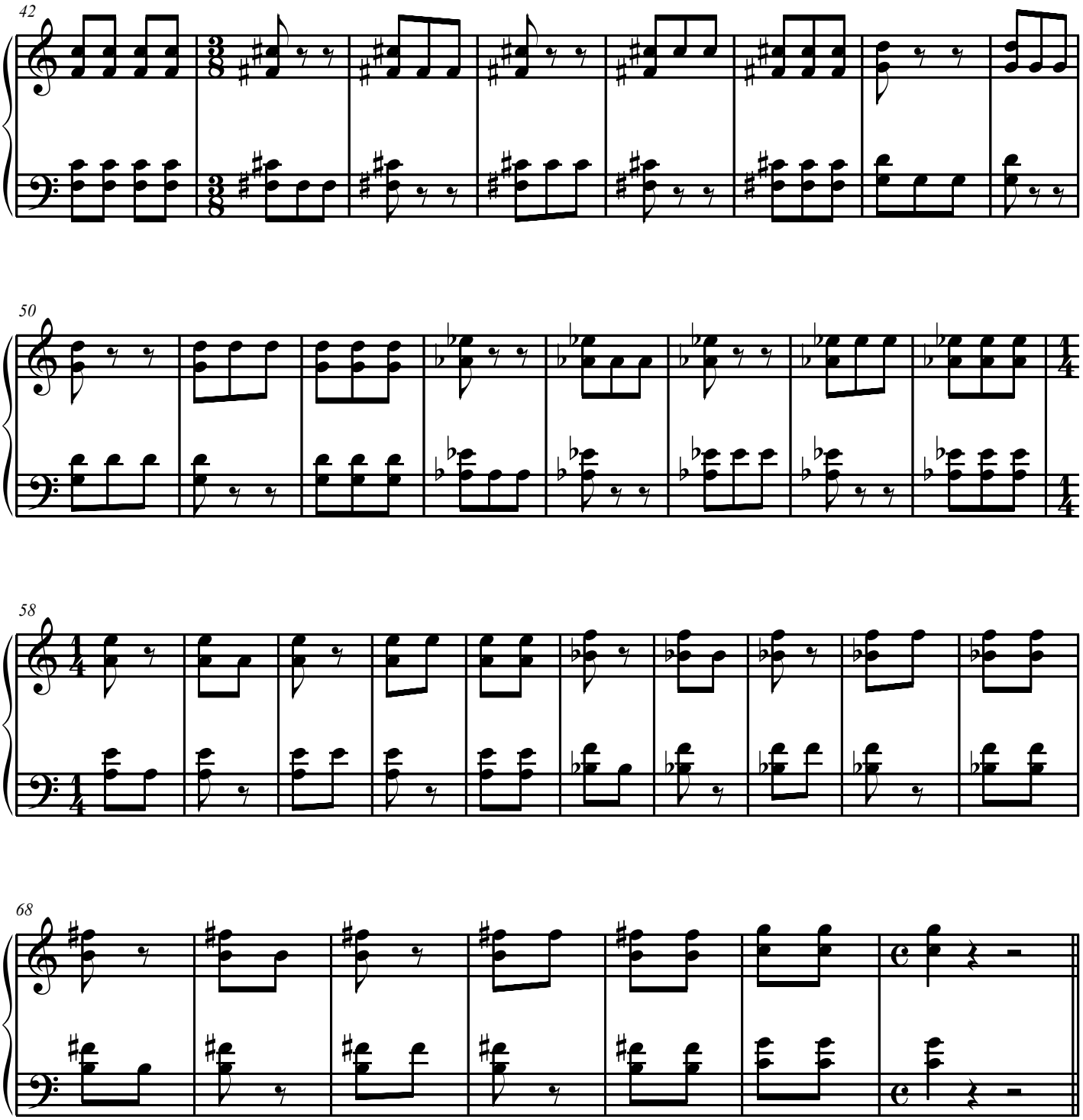
Daily Marimba Warm-up and Technique

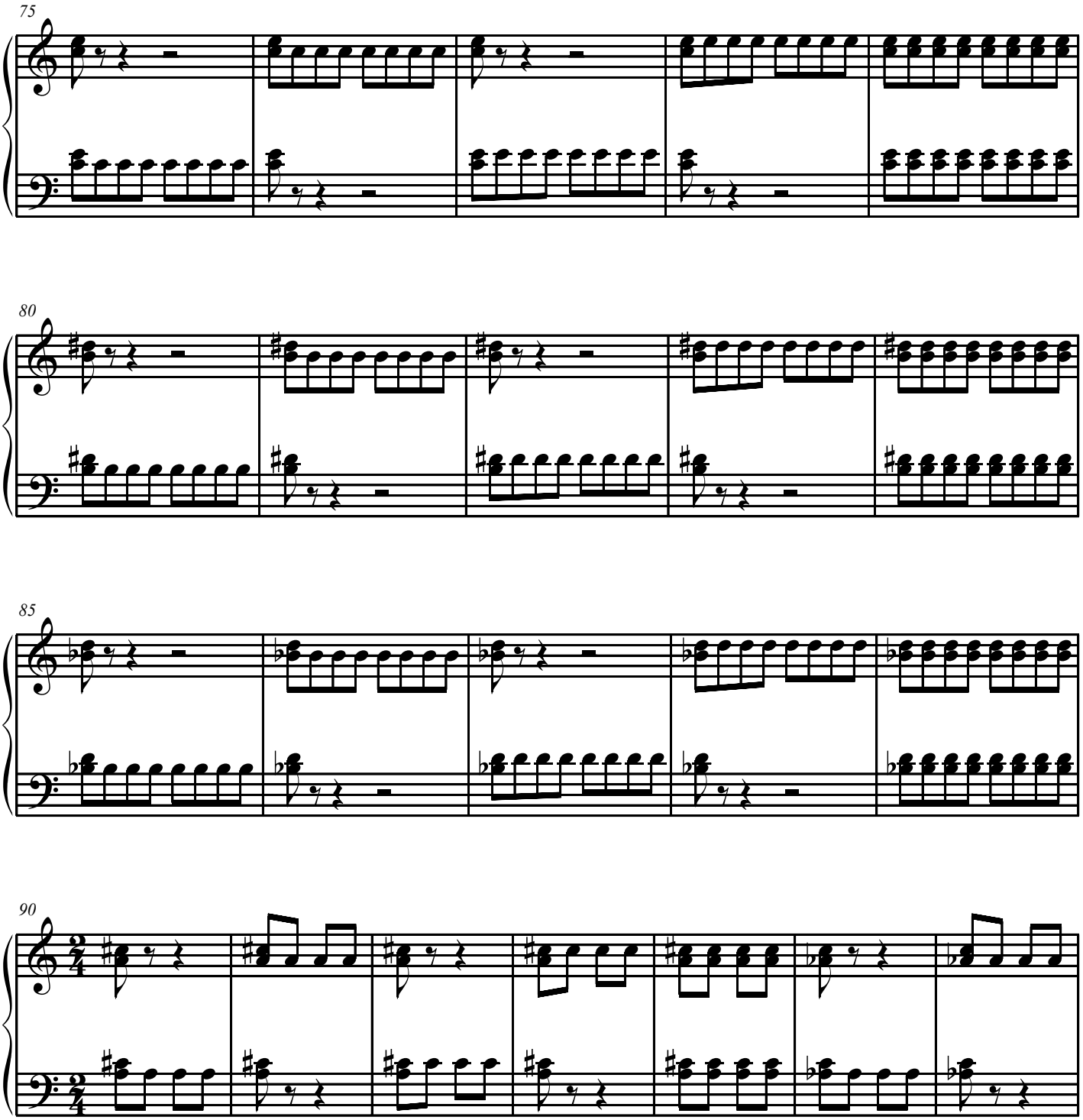
Andy Harnsberger

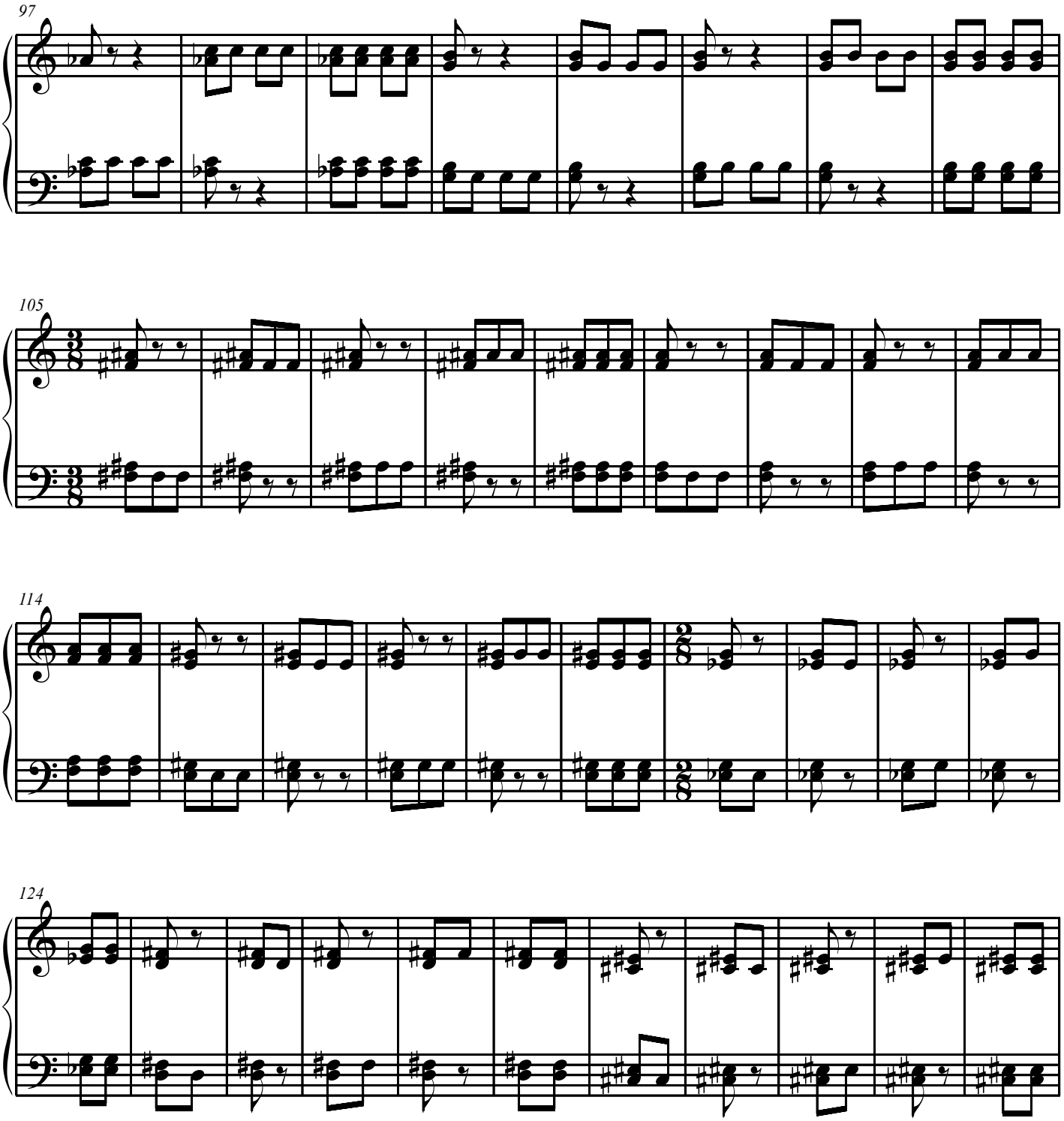
Exercise 1 ♩ = 50

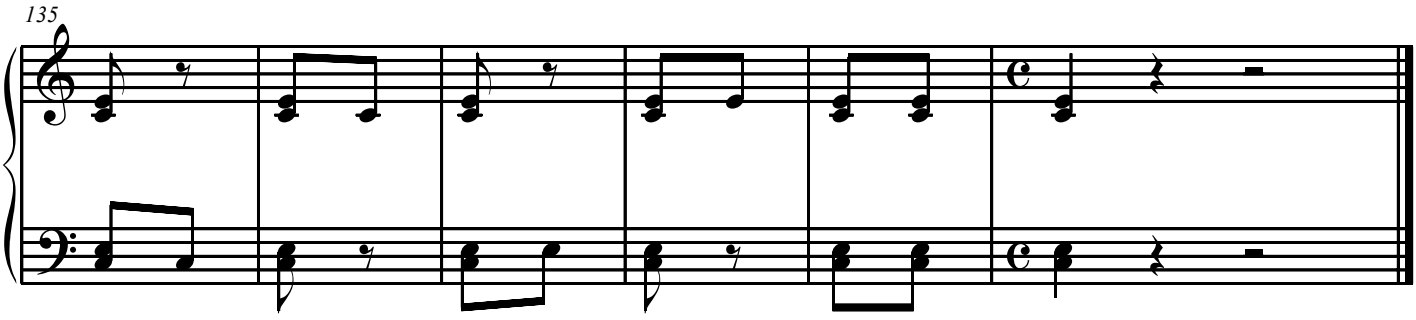



13
4 3 2 1 1 1 1 1 1 1 1 1
4 3 2 1 3 3 3 3 3 3 3 3
4 3 2 1 2 2 2 2 2 2 2 2
4 3 2 1 4 4 4 4 4 4 4 4
18
simile
23
28
35

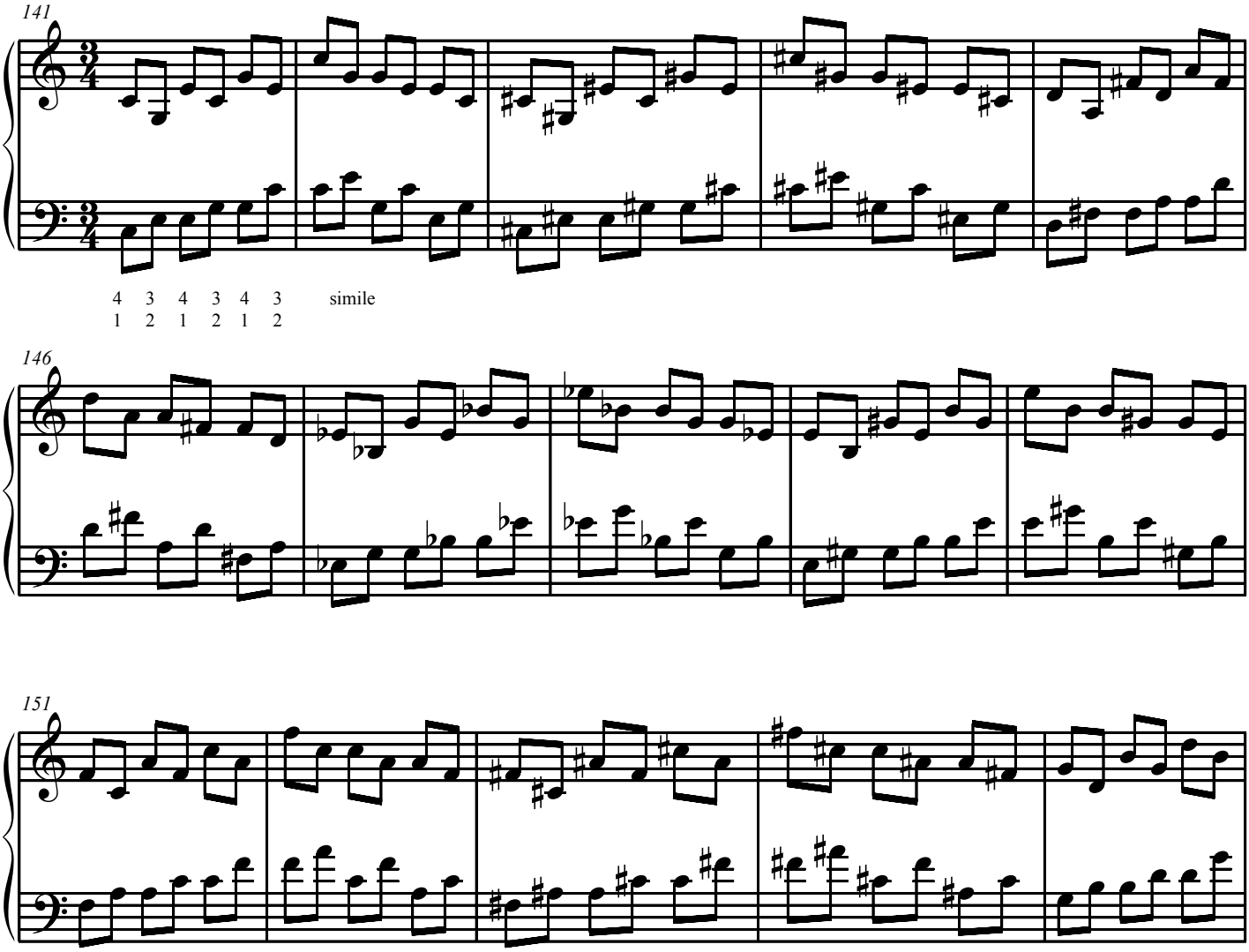

42
50
58
68

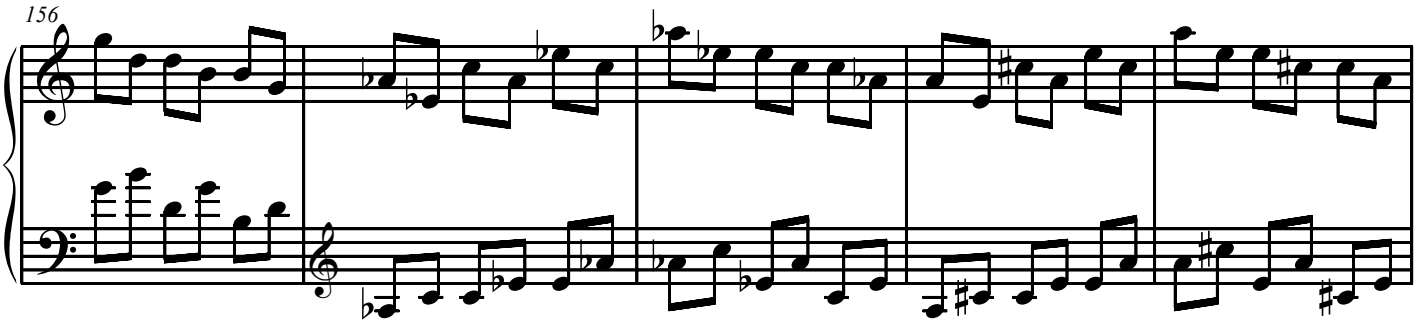

75
80
85
90

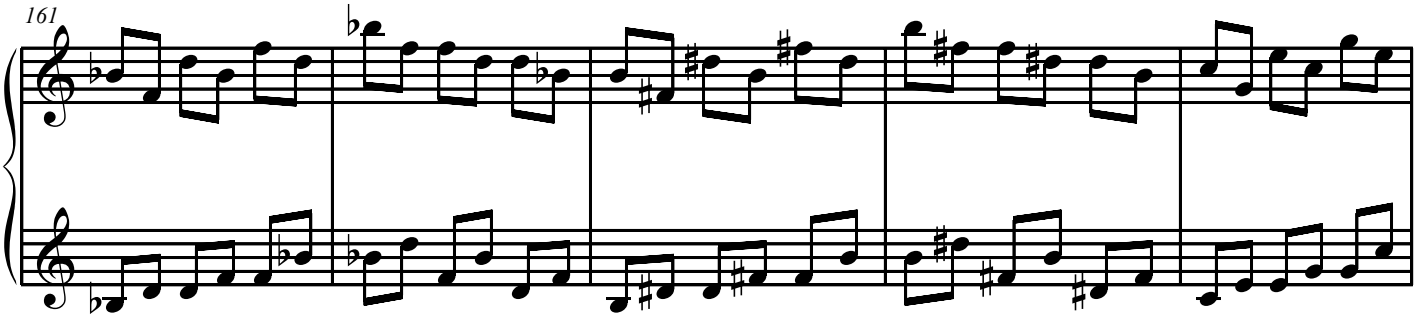

97
105
114
124



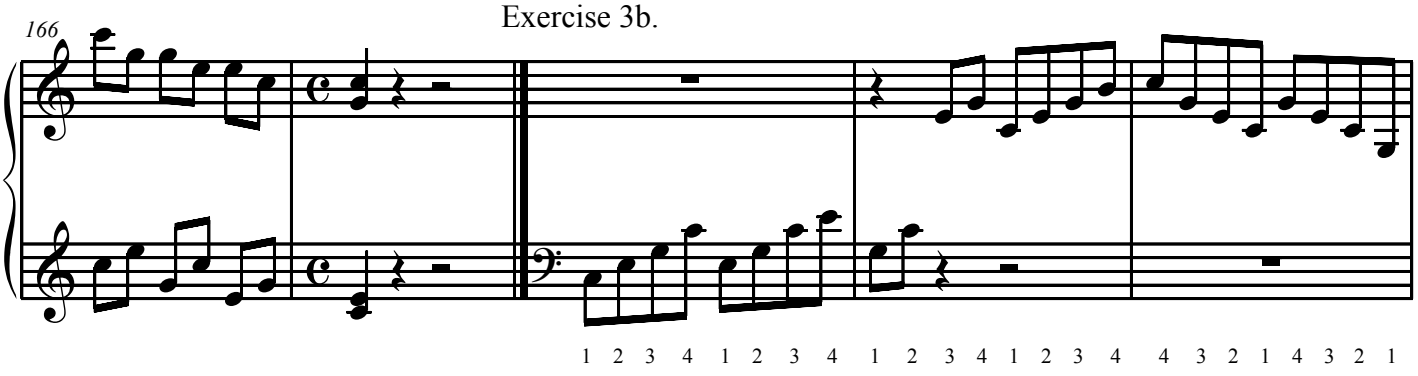
Exercise 3a.

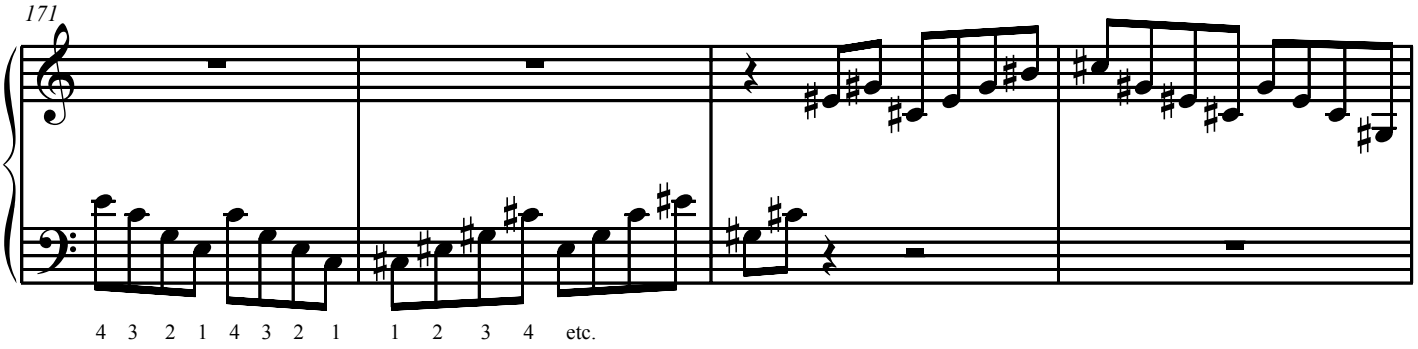


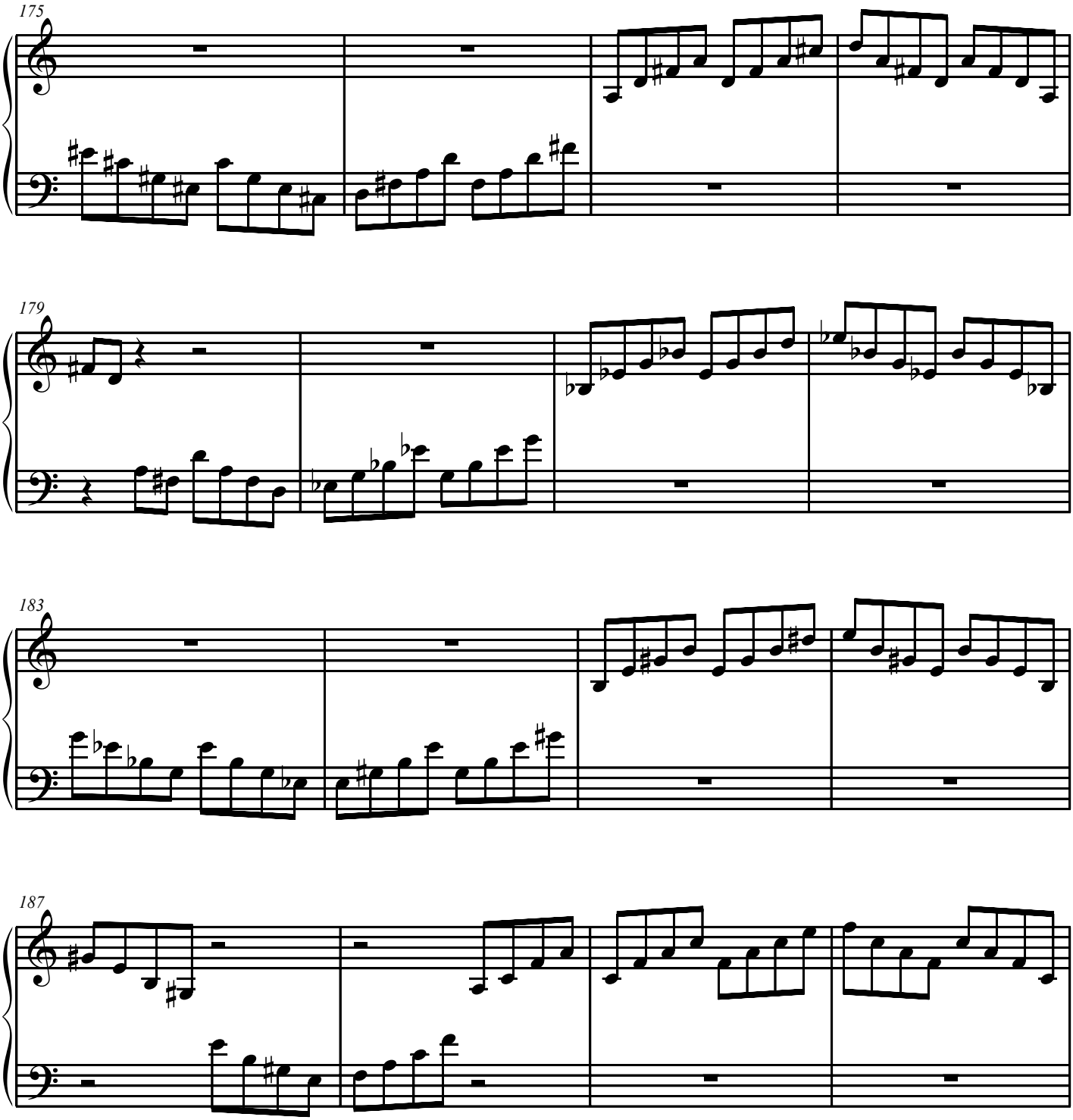

156

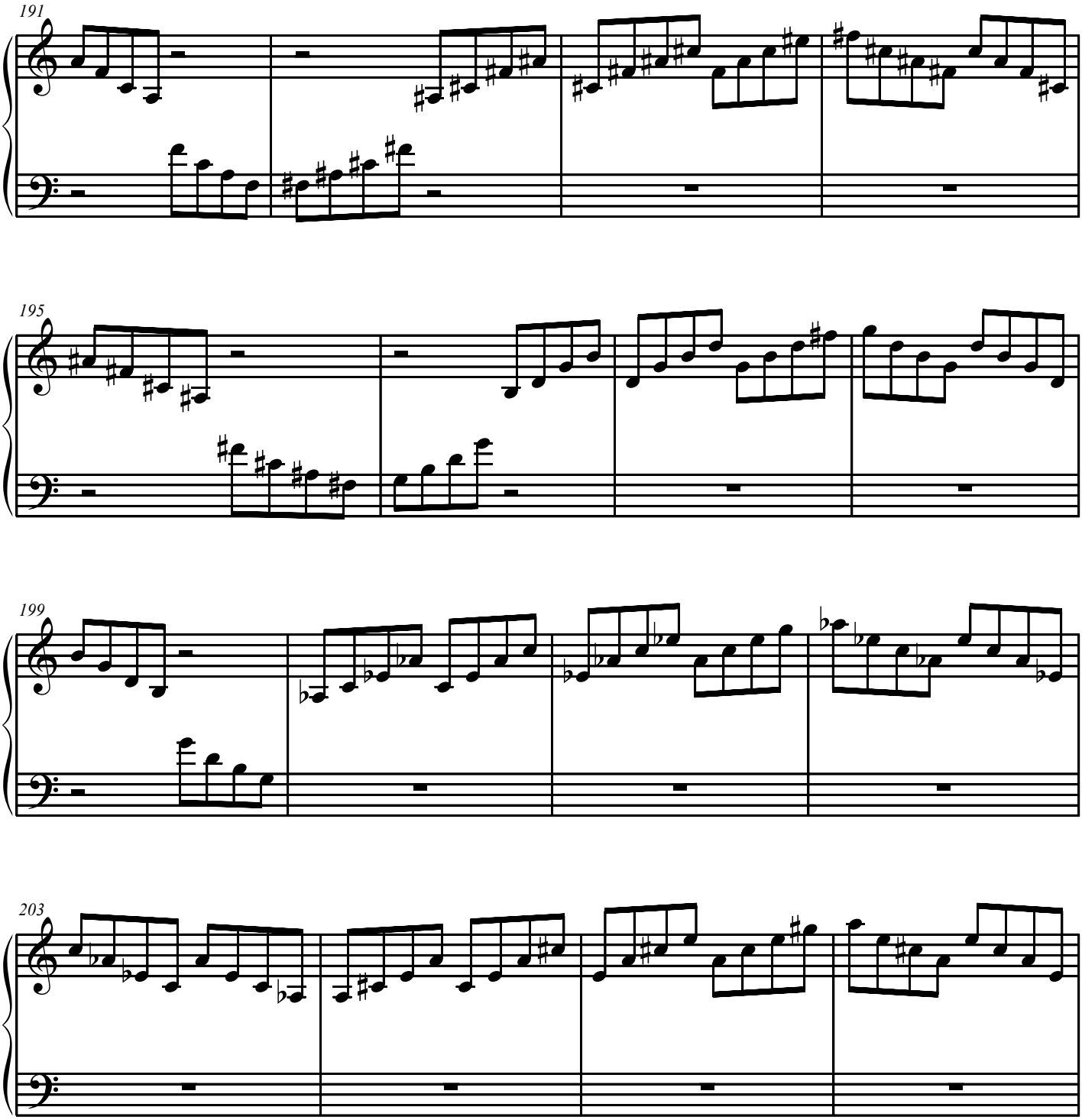

161

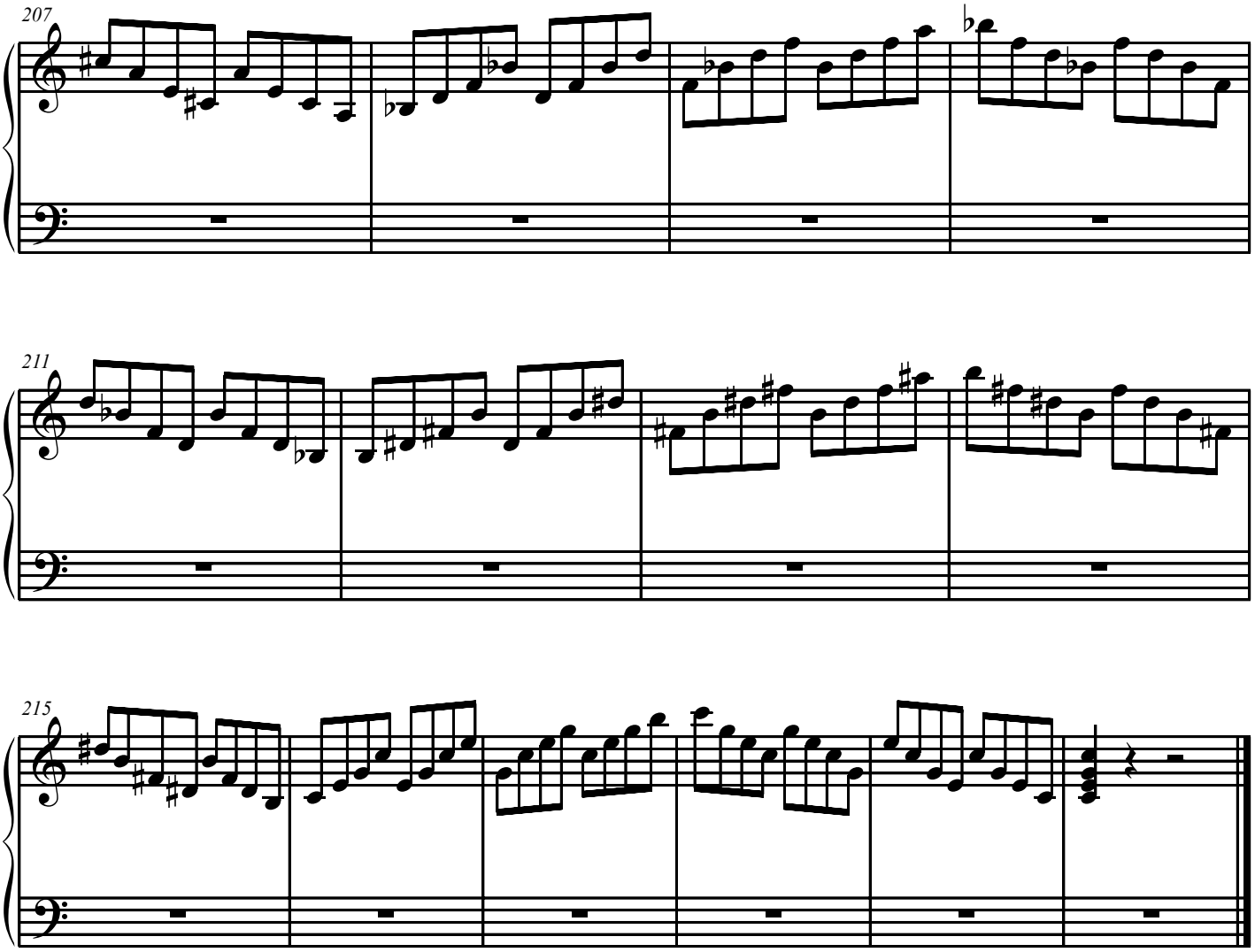
Exercise 3b.


166
1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 4 3 2 1 4 3 2 1

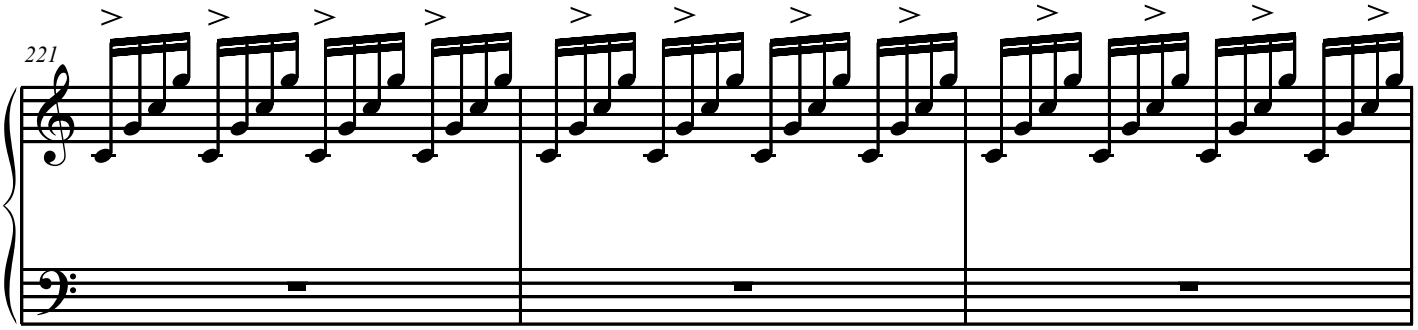

171
4 3 2 1 4 3 2 1 1 2 3 4 etc.


175
179
183
187

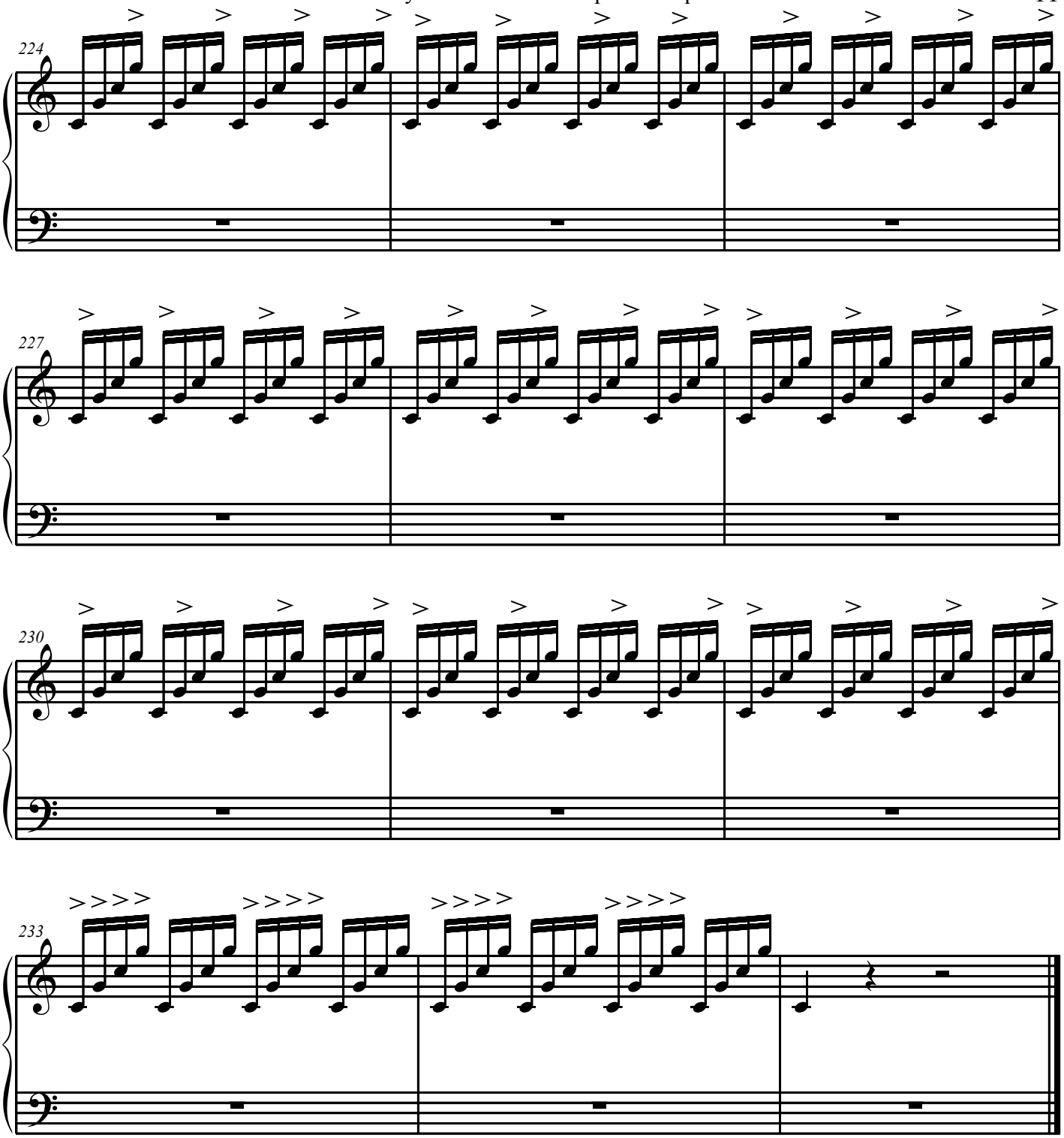

191
195
199
203



Exercise 4.

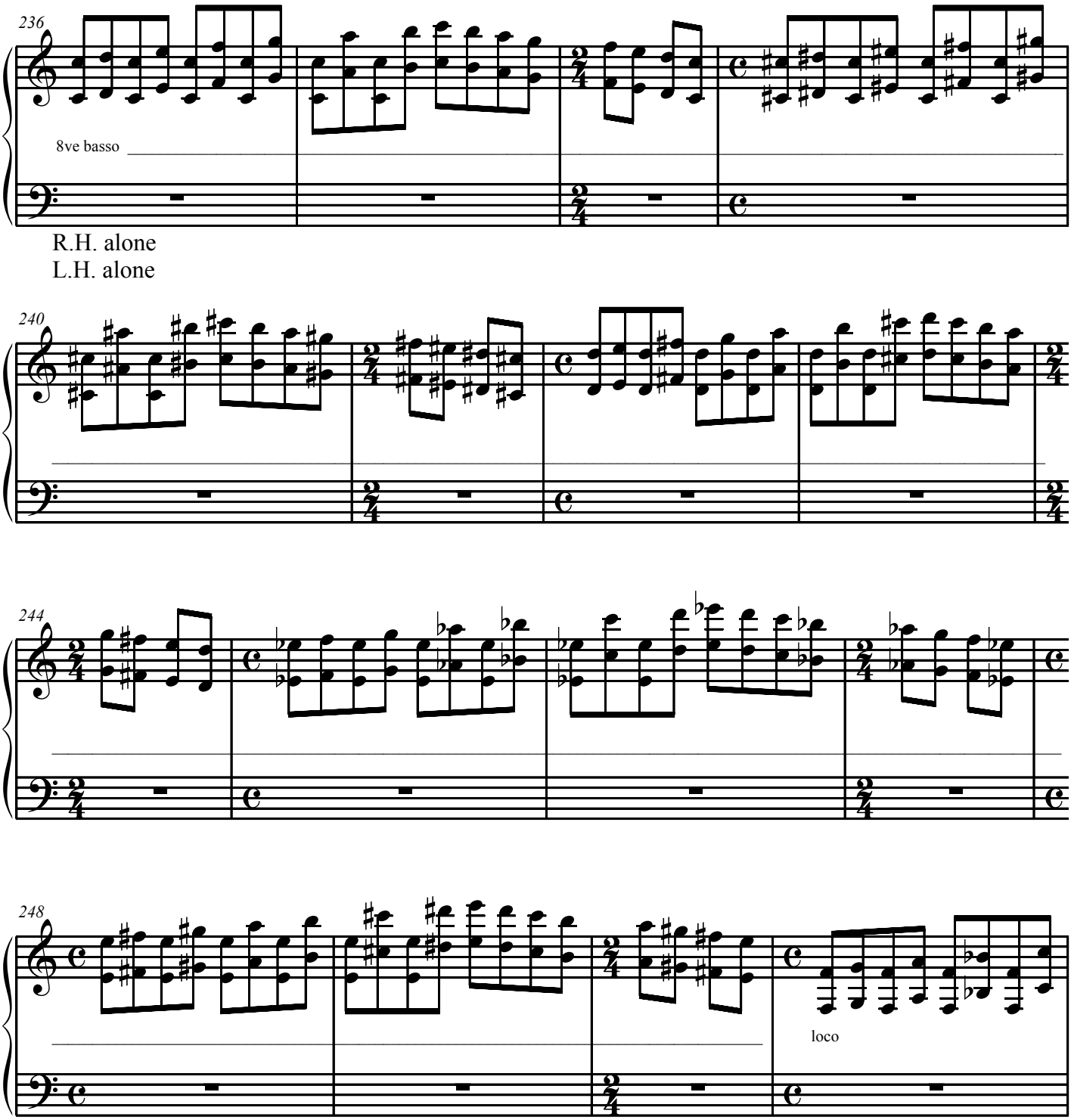


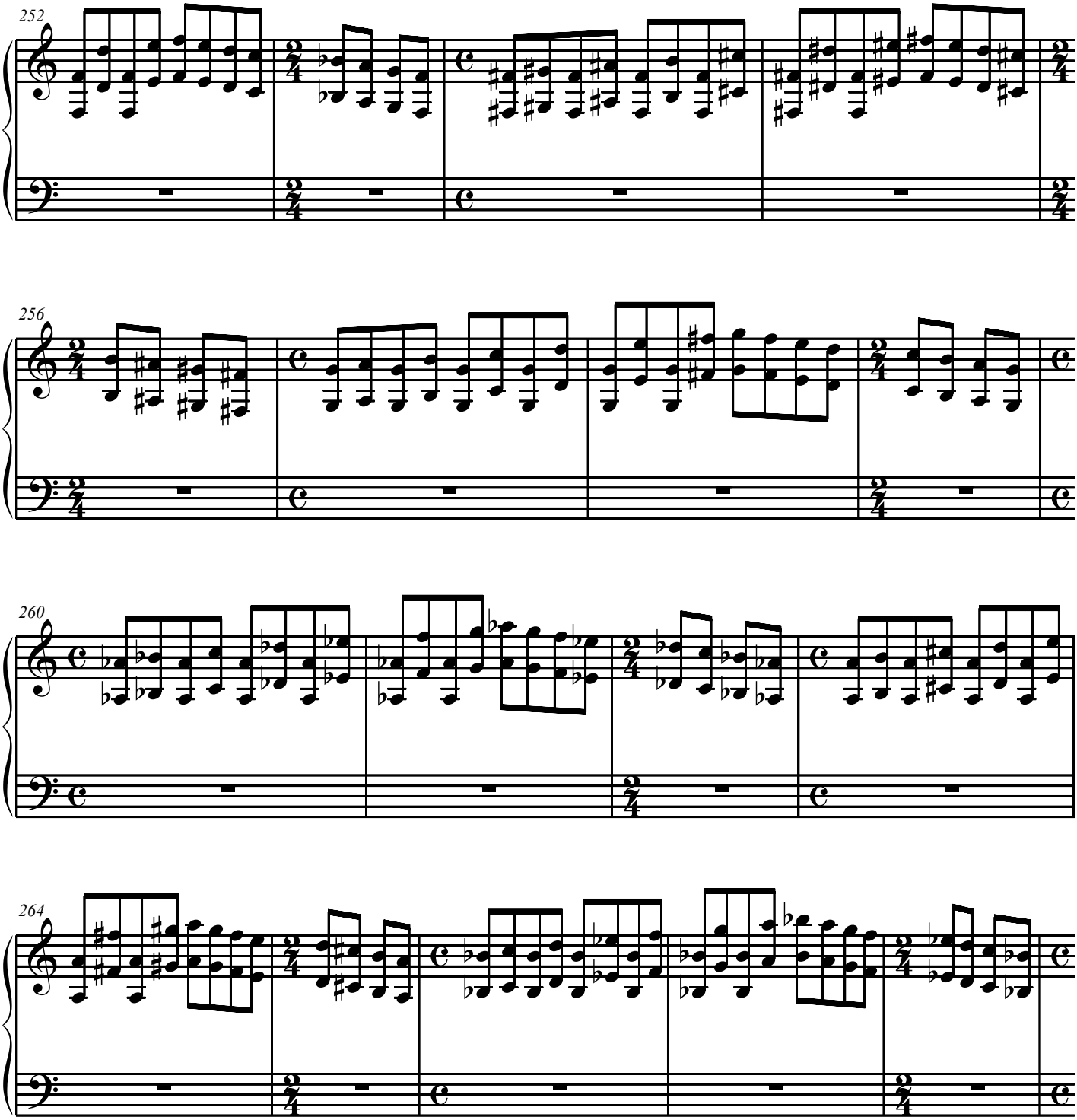
1 2 3 4 etc.

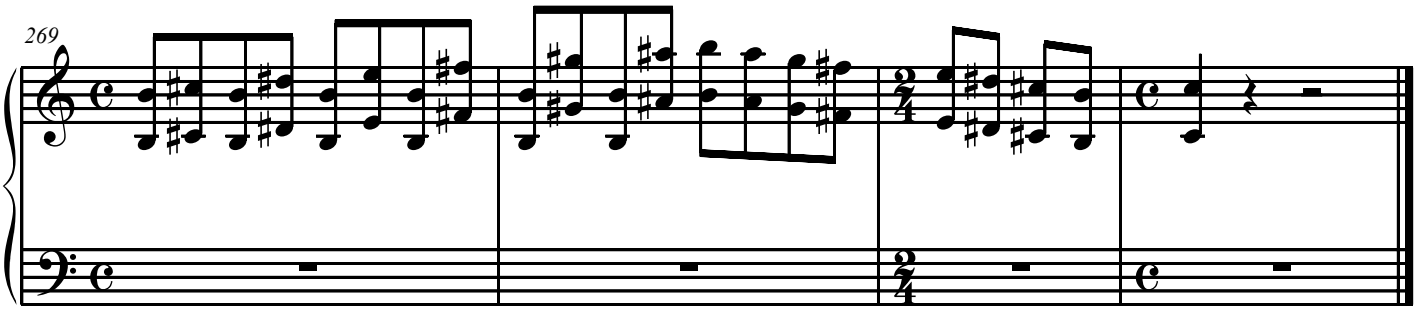


The above exercise should be practiced using different permutations and different intervals!

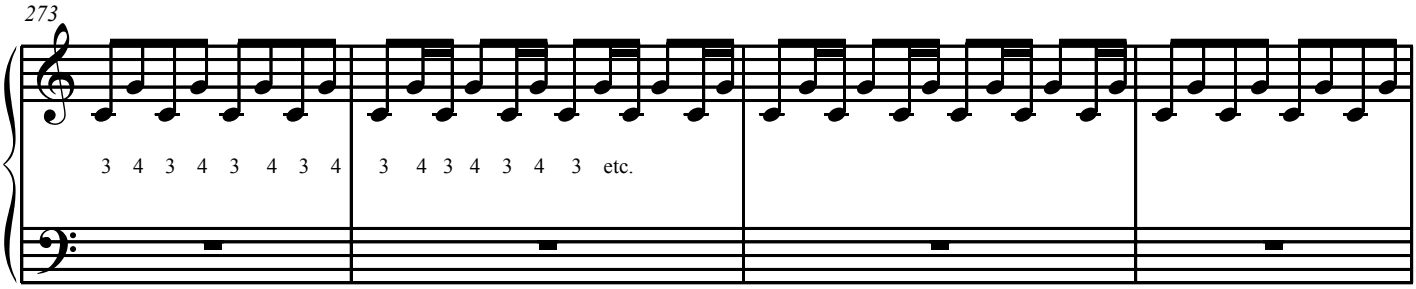
Exercise 5

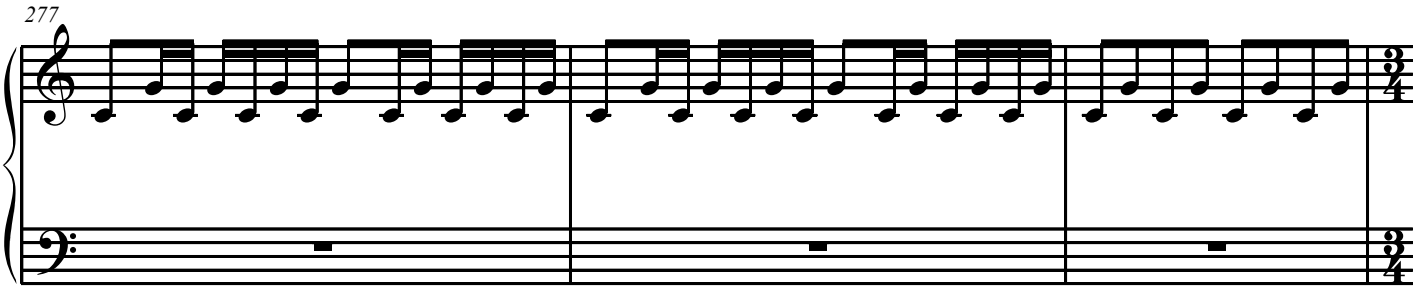


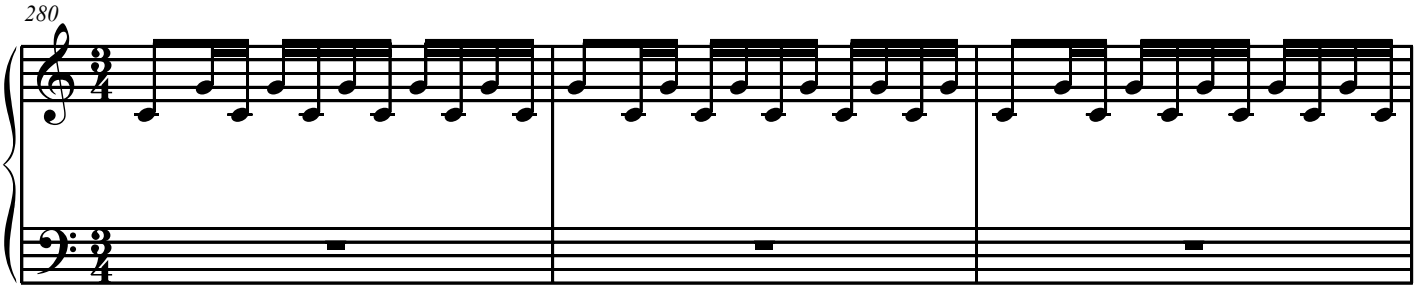

252
256
260
264

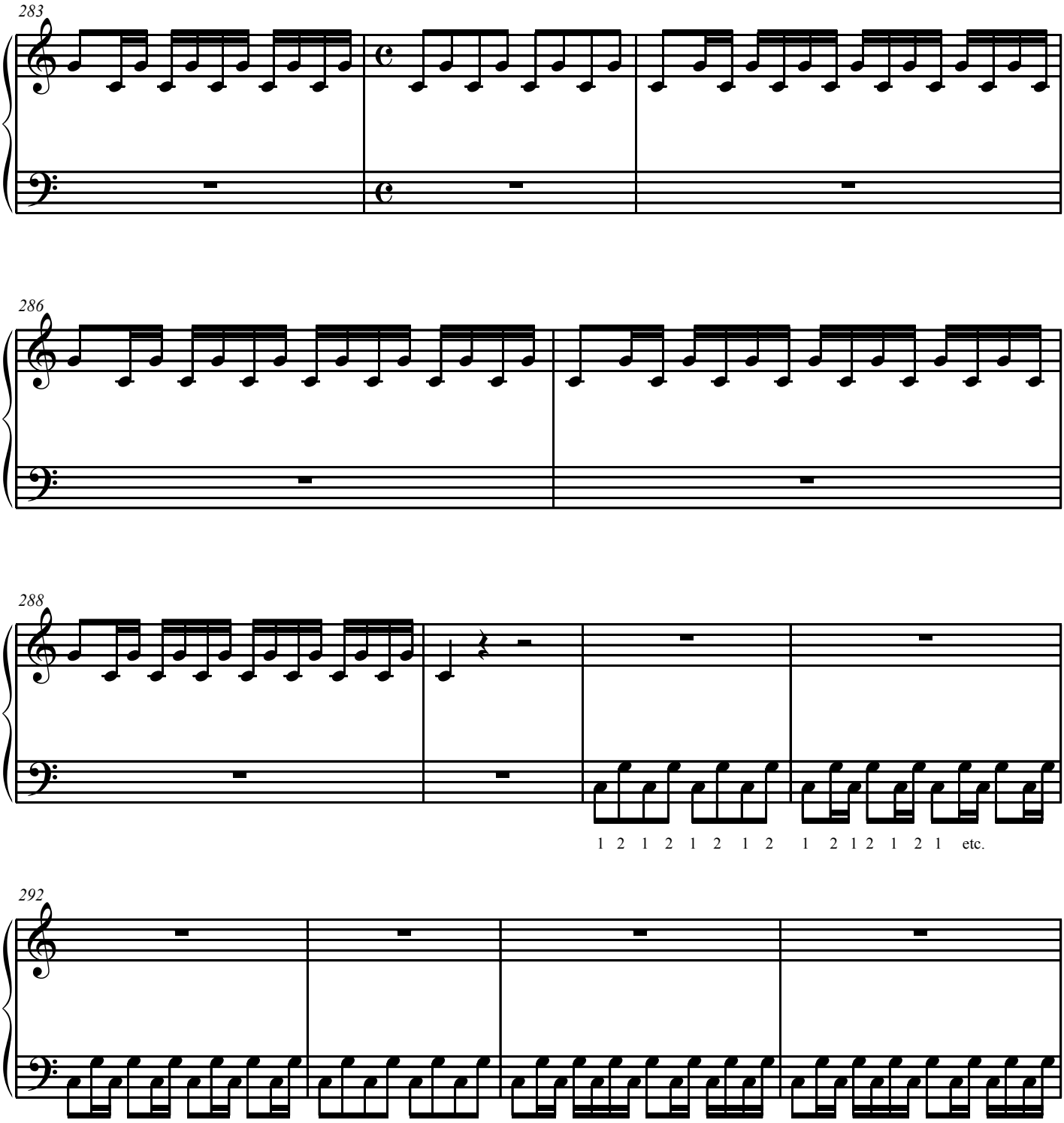


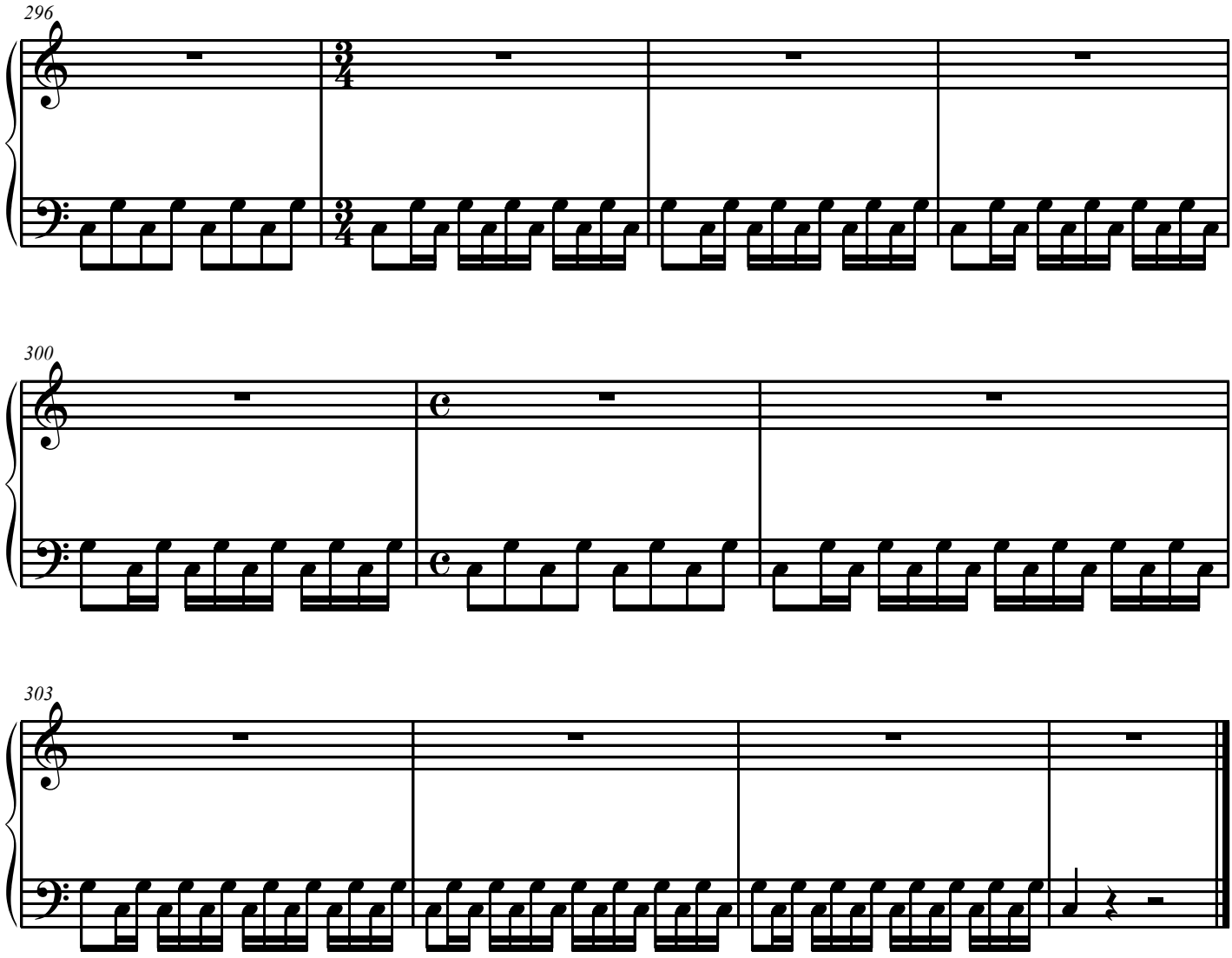
Exercise 6








283
286
288
1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 etc.
292

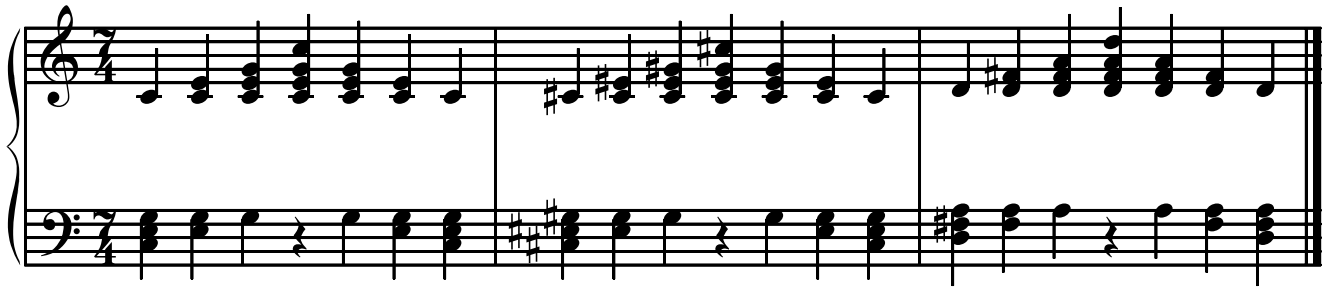


The above exercise should be practiced using different intervals, especially thirds and octaves.

Daily Marimba Warm-up and Technique

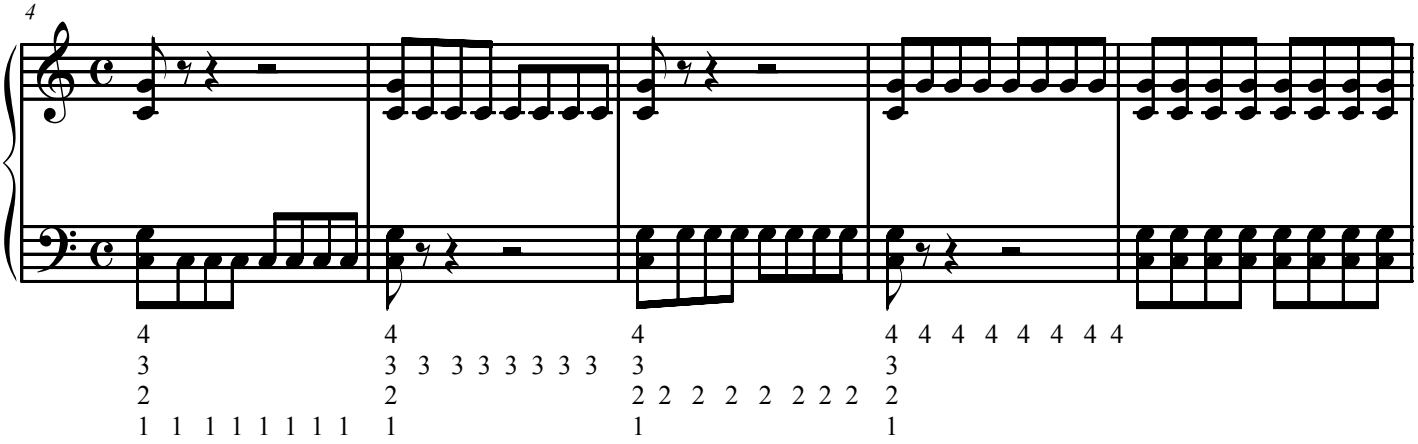
Andy Harnsberger

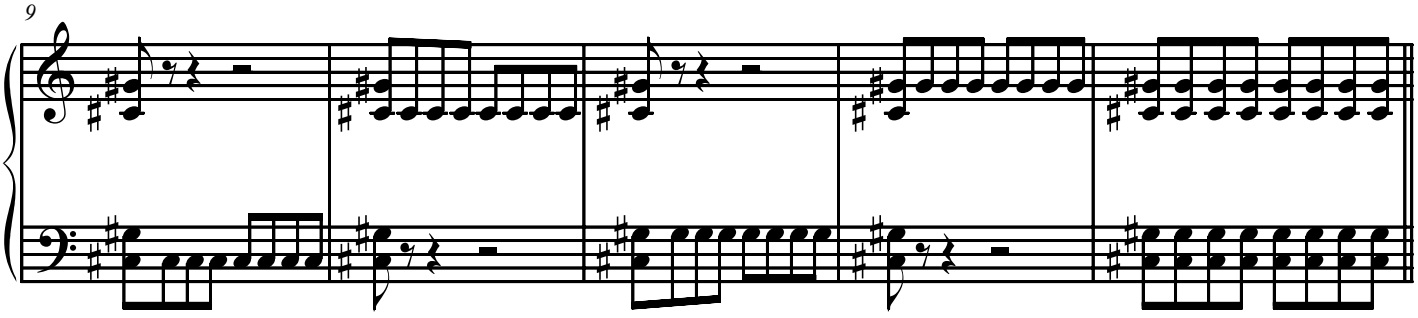
Exercise 1 ♩ = 50



etc.

Exercise 2 (ascending)

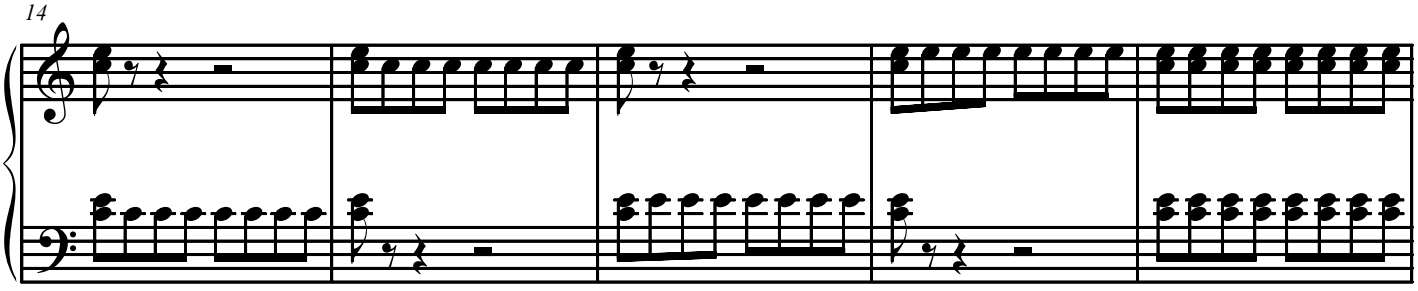




simile

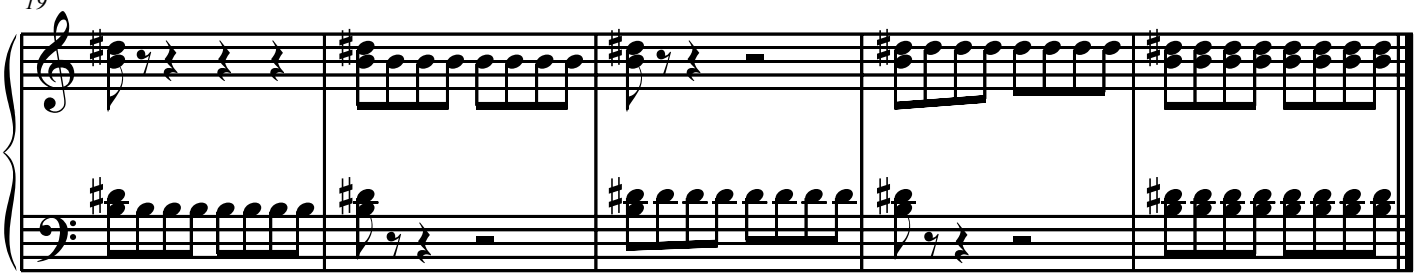
etc.

(descending)



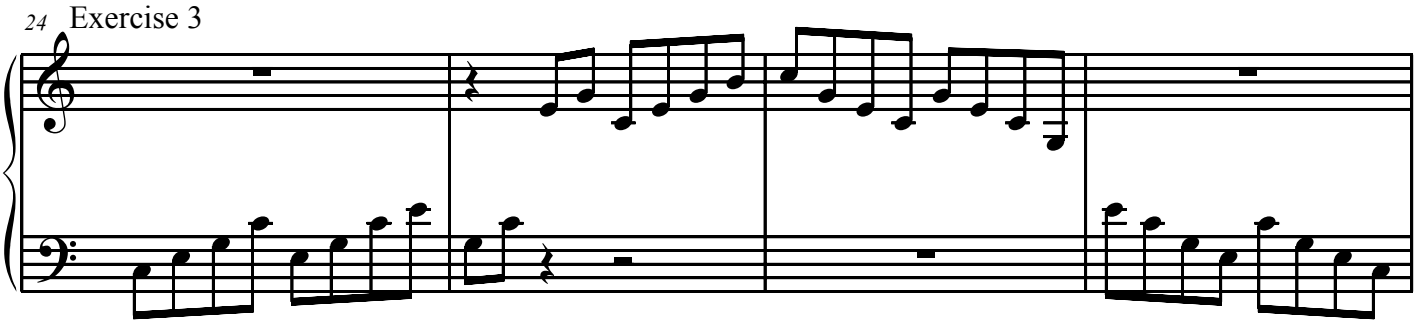
Exercise 2 continued

19



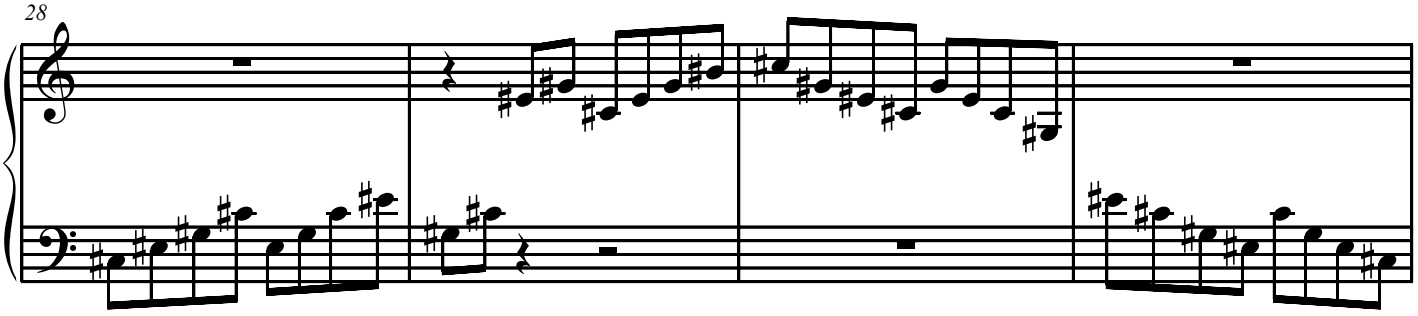
etc.

24 Exercise 3



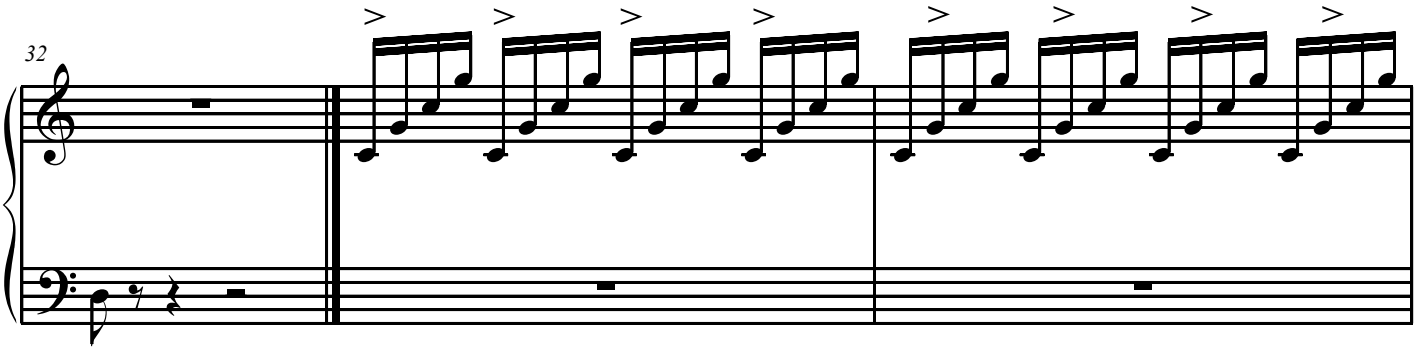
1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 4 3 2 1 4 3 2 1 etc.

28



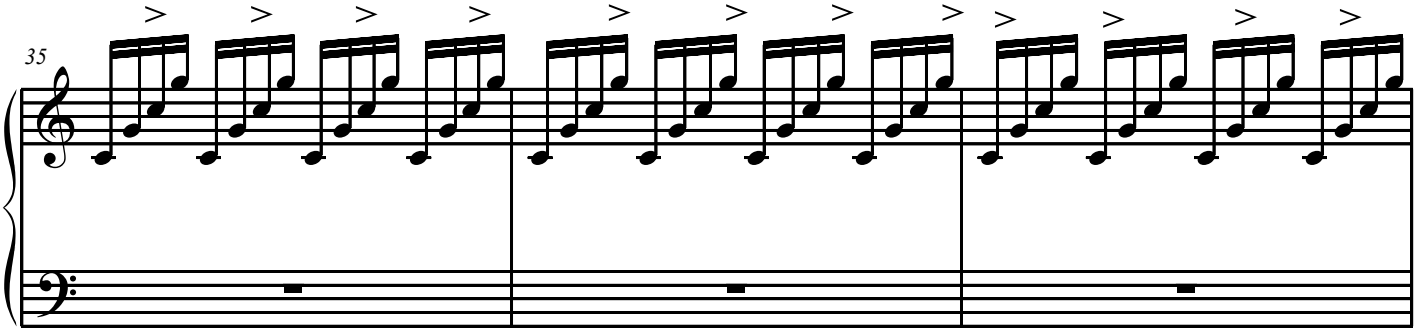
Exercise 4

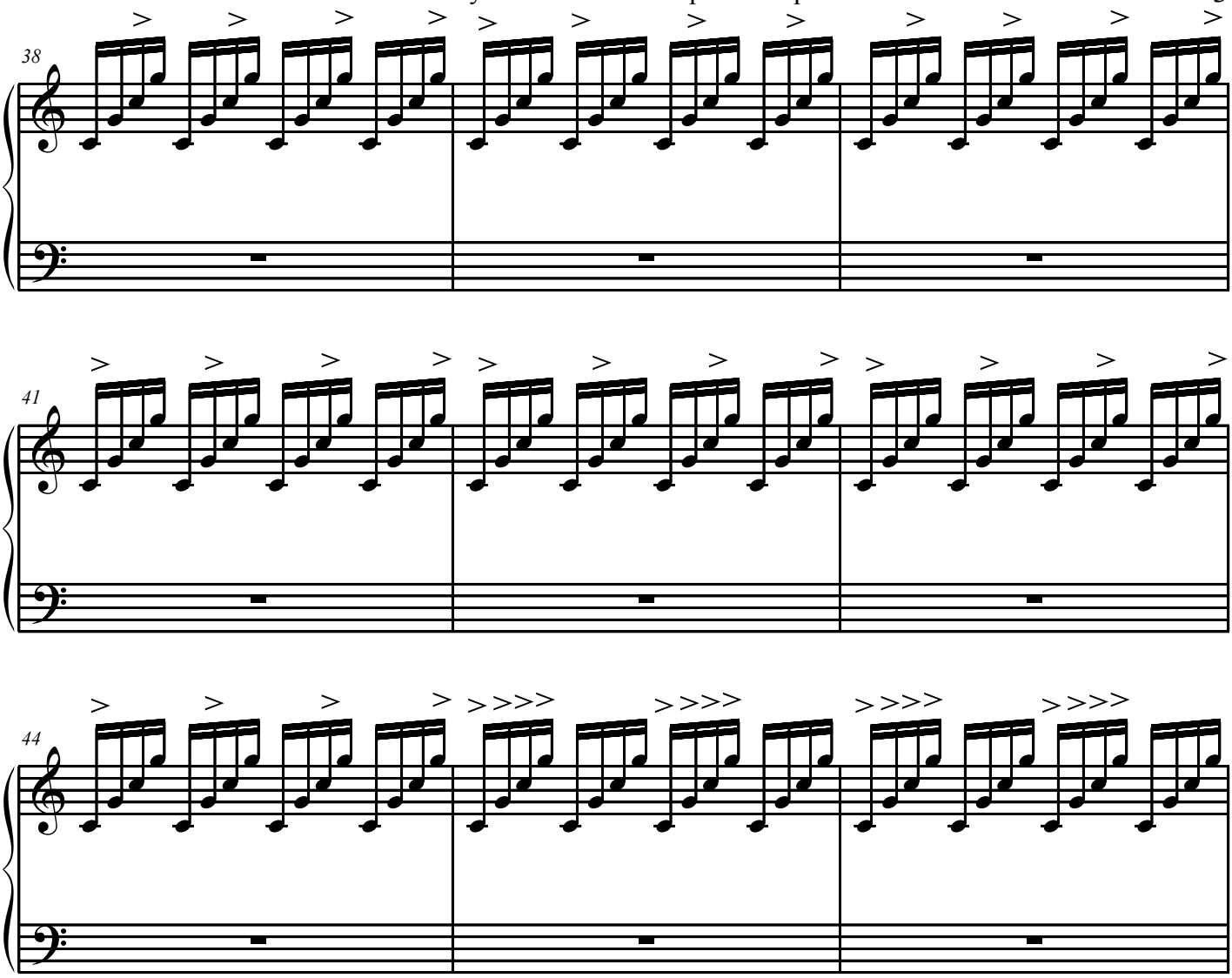
32



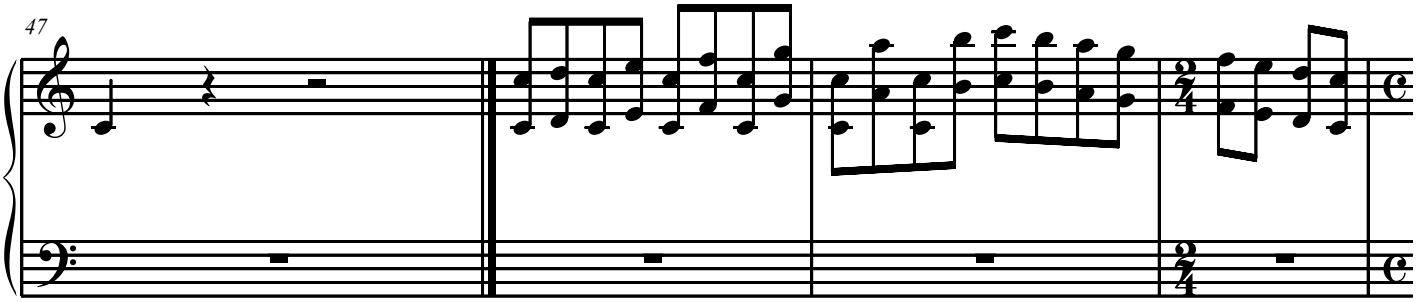
etc. 1 2 3 4 etc.

35

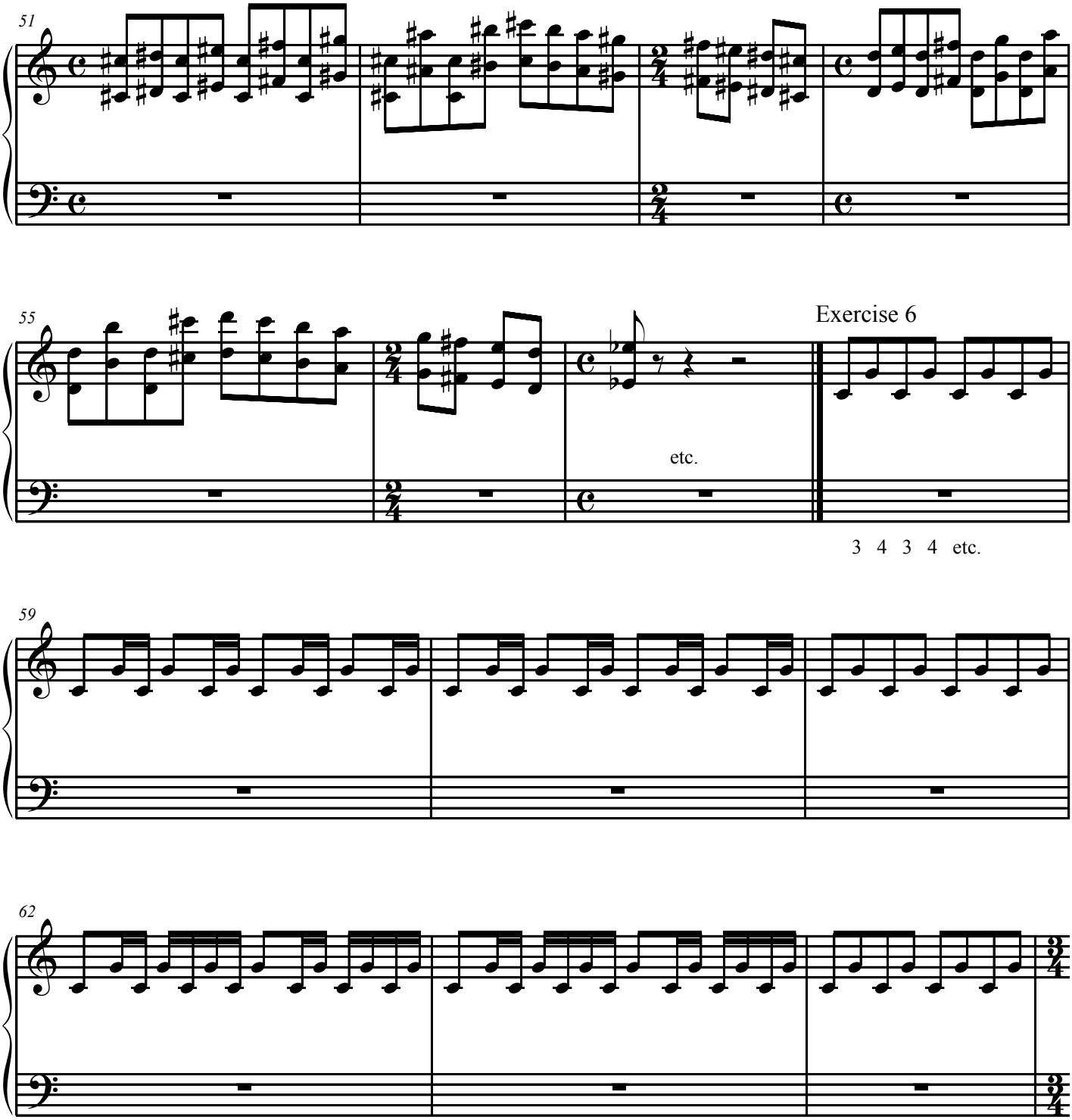


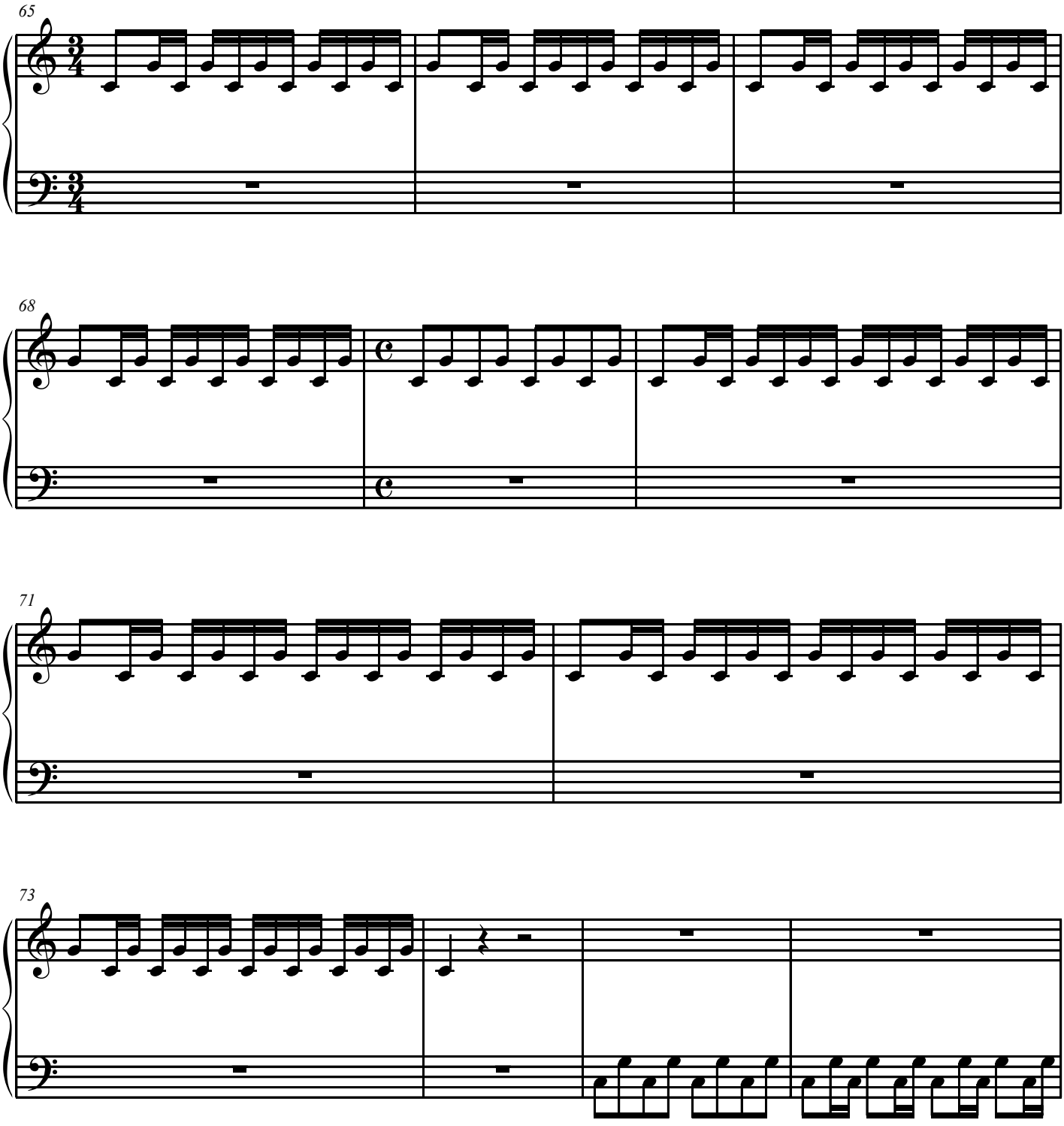


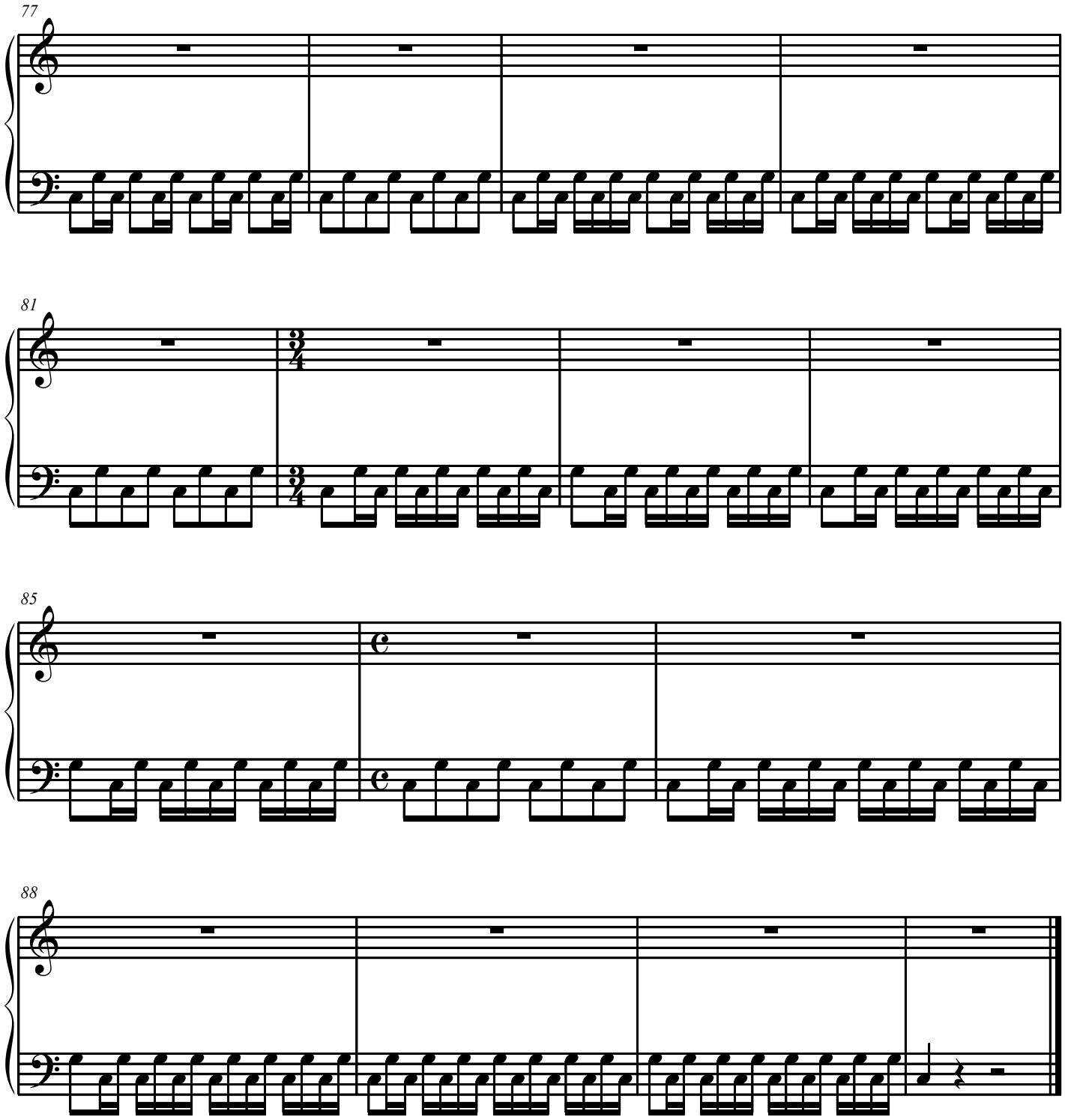
Exercise 5



R.H. alone
L.H. alone


51
55
Exercise 6
etc.
3 4 3 4 etc.
59
62


65
68
71
73
1 2 1 2 etc.



The above exercise should be practiced at different intervals, especially thirds and octaves.

Avoiding Injury by Proper Warm-up

BY ANDY HARNSBERGER

If you are anything like the average person, you are constantly faced with time constraints. Because of this, our practice sessions often turn into “note cramming sessions”, where we try to learn as many notes as possible in a short amount of time, or play through our recital pieces up to tempo several times within that short period. Not only is this detrimental to the hands, but it can also be harmful to the overall performance in recital situations.

Warming Up

For many percussionists, warming up is walking into the practice room, picking up the mallets and whizzing through some scales or technical exercises. Remember you are using some very delicate muscles, and these muscles need to be warmed up BEFORE you use them. Just as athletes incorporate stretching into their warm-up routine, so should you stretch before you start to play.

I like to begin warming up by doing very gentle stretches with my arms, hands, and fingers. It is necessary to flex and extend the muscles, especially the thumb (*pollicis)*, forearm (*brachioradialis)*, and fingers (*digitorum)*. To get the blood flowing, I run hot water over my hands while continuing to stretch. This will take anywhere from 5 to 10 minutes, depending on your own circulation. For very poor circulation, you might try a “contrast bath” – 5 minutes in cold water, 5 minutes in hot water (repeat).

After you have warmed up your muscles, begin your exercises or easy playing on the instrument. Continue stretching and take short breaks occasionally, at least 10 minutes every hour. By taking regular breaks, you get a chance to recuperate mentally as well as physically. Make it a ritual! Chances are, if you have warmed up properly you can practice longer hours without fatigue, and, if you must leave your practice session for an extended period of time, you are likely to still be warm when you return. Warming up properly and taking care of your hands during practice sessions can prevent serious injuries such as tendonitis and carpal tunnel syndrome.

The Author: ***ANDY HARNSBERGER*** *earned his Doctorate of Musical Arts in Performance and Literature at The Eastman School of Music in Rochester, New York, where he also received the prestigious Performer's Certificate. He completed his Bachelor of Music and Master of Music from Virginia Commonwealth University in Richmond, Virginia. He resides in Atlanta, Georgia and is active throughout the year as a marimba recitalist/clinician and freelance percussionist. Dr. Harnsberger is Director of Percussion Studies at Lee University in Cleveland, TN and is a performing artist and clinician for the Pearl/Adams Percussion Corporation, Innovative Percussion, Inc., and Sabian Cymbals, Ltd.*

WWW.PEARLDRUM.COM

Pearl®
The best reason to play drums.

ADAMS

Tendonitis and Carpal Tunnel Syndrome

Andy Harnsberger

Two very common injuries sustained by percussionists are Tendonitis and Carpal Tunnel Syndrome. Knowing what these conditions are can help in their prevention.

Tendons at the wrist are enclosed in sheaths – a double-walled sleeve designed to isolate, protect, and lubricate the tendons so that the possibility of damage from pressure or friction is reduced to a minimum. The space between the two layers of the tendon sheath contains fluid, so these layers slide over each other easily. The wrist cannot tolerate repeated movements of the same sort without sustaining damage in the form of inflammation. The wrist needs rest periods in order for the lubricating fluid to be replenished. If this does not happen, and the system is run without adequate lubrication, the two layers of the tendon sheath begin to rub against each other and the tendons, causing pain. This is the basis of the condition known as Tendonitis.

The inside of the wrist contains tunnels, called carpal tunnels, through which a major nerve passes. This "median" nerve, which controls motor and sensory distribution in the hands and fingers, is sometimes compressed. Constant pressure on the carpal tunnel can obstruct proper blood flow and nerve transmissions to the hands and fingers causing numbness and tingling. This condition is referred to as Carpal Tunnel Syndrome. Compression of the median nerve can be caused by tendonitis or a combination of flexed wrist with significant grip force requirements and repetitive movements – the same types of motions we use as percussionists. These stresses are commonly associated with cumulative trauma disorders of the hand and wrist (repetitive stress injury). Below are some symptoms and tests to see if you should see a doctor.

Finkelstein Test **(Tendonitis in the thumb)**
Make a fist with the thumb inside the fingers. Stabilize the wrist and ulnarly deviate the wrist (turn wrist toward the little finger). A positive test is indicated by pain in the thumb and tendons at the wrist. Because the test may cause some discomfort in normal individuals, one should compare the left to the right for differences in pain.

Tinel's Sign **(Carpal Tunnel)**
The examiner taps over the carpal tunnel at the wrist. A positive test causes tingling into the thumb, index finger, middle finger, and lateral half of the ring finger. Tinel's sign at the wrist is indicative of carpal tunnel syndrome.

Phalen's Test **(Carpal Tunnel)**
Flex both wrists all the way down and hold this position for 1 minute by pushing both wrists together. Tingling into the thumb, index finger, middle finger, and

lateral half of the ring finger indicates a positive test. It is indicative of carpal tunnel syndrome caused by pressure on the median nerve.
These symptoms can often be avoided by warming up properly and taking regular breaks during practice sessions. However, perhaps the best preventative measure is soaking your hands in ice after each practice session for twenty minutes. This reduces the inflammation, which may have occurred during the course of the day. Taking vitamin B6 can also help prevent numbness and tingling by increasing blood circulation. If symptoms persist after trying these suggestions, consult a chiropractor or your doctor.

Practice Hints

BY ANDY HARNSBERGER

While the following suggestions were written with marimba performance in mind, they can also be applied to other instruments.

Slow Practicing

Many practice sessions are spent playing pieces up to tempo over and over again. Most of the time, the player is merely relying on "muscle memory" to get through the piece. Muscle memory is a great thing, but when you get nervous, it is the first thing that leaves. Your muscles get tight and simply forget what they are doing.

Practicing at painfully slow tempos forces you to concentrate on each note, as well as focusing on technical problems, body positioning, and musical gestures. It also keeps you from relying strictly on muscle memory. This is an excellent tool for gaining an overall knowledge of the piece and for improving your memorization skills. It also helps to break the habit of stopping at each mistake because you are constantly thinking ahead.

Slow practice should take place every day, not just in the note learning process. Always use a metronome and increase the tempo very gradually when working pieces up to tempo. Be patient and remember, if you don't know it slow…you don't really know it!

Tips for the Beginning to Intermediate Mallet Player

Whether you are starting your first four-mallet marimba solo, or you are ready to move on to a more advanced piece, there are a couple things to consider. First, you must realize the technical and musical demands of the piece. One of the most common problems for advancing mallet players is trying to play literature that is too difficult for their ability. Knowing how to sound good on the instrument is essential, so selecting literature that is within your grasp will help to solidify your technique and give you a broader musical foundation. The following is a short list of pieces that I recommend for the "beginning" and "intermediate" player. These pieces will introduce the student/performer to a variety of styles, musical issues, and techniques.

Beginning:	Intermediate:
Sea Refractions by Mitchell Peters	*Michi* by Keiko Abe
Yellow After the Rain by Mitchell Peters	*Monograph IV* by Richard Gipson
True Lover's Farewell by Stephen Gwin	*Rhythm Song* by Paul Smadbeck
Gitano by Alice Gomez	Bach transcriptions

Impressions on Wood by Julie Davila – This is a book of short pieces for beginning or intermediate players. Each piece contains different technical and musical issues.

Avoiding Injury

If you are anything like the average person, you are constantly faced with time constraints. Because of this, our practice sessions often turn into "note cramming sessions", where we try to learn as many notes as possible in a short amount of time, or play through our recital pieces up to tempo several times within that short period. Not only is this detrimental to the hands, but it can also be harmful to the overall performance in recital situations.

Warming Up

For many percussionists, warming up is walking into the practice room, picking up the mallets and whizzing through some scales or technical exercises. Remember you are using some very delicate muscles, and these muscles need to be warmed up BEFORE you use them. Just as athletes incorporate stretching into their warm-up routine, so should you stretch before you start to play.

I like to begin warming up by doing very gentle stretches with my arms, hands, and fingers. It is necessary to flex and extend the muscles, especially the thumb (*pollicis)*, forearm (*brachioradialis)*, and fingers (*digitorum)*. To get the blood flowing, I run hot water over my hands while continuing to stretch. This will take anywhere from 5 to 10 minutes, depending on your own circulation. For very poor circulation, you might try a "contrast bath" – 5 minutes in cold water, 5 minutes in hot water (repeat).

After you have warmed up your muscles, begin your exercises or easy playing on the instrument. Continue stretching and take short breaks occasionally, about 10 minutes every hour. By taking regular breaks, you get a chance to recuperate mentally as well as physically. Make it a ritual! Chances are, if you have warmed up properly you can practice longer hours without fatigue, and, if you must leave your practice session for an extended period of time, you are likely to still be warm when you return. Warming up properly and taking care of your hands during practice sessions can prevent serious injuries such as tendonitis and carpal tunnel syndrome.

Take the time to stretch your hands, arms, and wrists before extended practice sessions to avoid injury in the long run. Running your hands under warm water while stretching will improve your endurance. I have included a few warm-ups/technical exercises that will benefit the beginner to advanced mallet player. These exercises are beneficial to any player, regardless of the preferred grip.

Other tips for Memorization

1. *Analysis* - Analyzing your pieces will allow you to gain a better understanding and answer many musical dilemmas. Analysis can tell you how to perform sections that are difficult to understand and aid in the memorization process. For example, doing a harmonic analysis of a chorale may keep you from getting lost in a performance because you know the sequence of the chords.

2. *Body Positioning* - Many times notes are missed simply because you may not be in the right position. Pay attention to where you stand, where your hands are, and arm and elbow movement in each practice session. When practicing sections that require independent motions of each hand, practice watching each hand separately. This again, will keep you from relying strictly on muscle memory.

3. *Singing* - Singing along with the music you are playing is one of the best exercises I know for developing a good musical sense and direction. Intuitive musical decisions can be made by simply singing while practicing or away from the instrument. This will help you to think ahead when performing.

4. *Visualization* - This technique is sometimes time consuming and often very difficult at first. Standing behind the instrument, visualize yourself playing the piece…note by note. Be patient and take it slow enough to see each note being played. When you become more advanced, try this technique away from the instrument.

5. *Perform Often* - Performing often and under different circumstances helps you to get a better perspective on how you will react to an audience. I won't say that nervousness will disappear by performing often, but you will know what to expect and how your body reacts to being nervous. Knowing these things will free your mind to concentrate on the music, rather than being nervous.

I perform between 50-75 recitals and clinics each year, and I use each of these techniques to help in the memorization process. I accept the fact that I will get nervous before each concert, and I do not fight it. It only makes me tense. Instead, I channel that energy into the performance and the pieces I am playing.

WWW.PEARLDRUM.COM

Pearl®
The best reason to play drums.

ADAMS

Percussion Resource Library
Pearl
Insight and inspiration from today's top percussion artists

Self-Motivation: Finding Your Focus

BY ANDY HARNSBERGER

Let's face it: By now, music has seeped its way into your everyday existence. The choices you make in almost everything are based upon it: When you practice, what you listen to, even what you read in your spare time. You obviously wouldn't have your nose buried in this magazine if you hadn't decided that you want to improve some aspect of your playing. Bottom line: It is an obsession. Yet somehow, even at this point, many serious musicians still manage to lose momentum.

At any given time on the journey toward your goal, you may find yourself in a negative feedback cycle where the more infrequently you improve, the more discouraged you become. Your brain starts to make excuses not to do the things that you need to do on a regular basis to break out of the rut.

What you need is a good dose of motivation – the same kind you had when you first started playing and practicing. Remember those days? Back then; it didn't take much to get you behind the instrument. You were making improvements; sounding good and you loved every minute of it. Sure, times have changed and there may be a lot more going on in your life, but in the beginning, practicing was the priority – no matter what!

So, what will bring you back to the glory days of gradual improvement and continual musical growth? What will motivate you even when you hit the much-dreaded plateau? The most overlooked source of motivation and inner strength simply comes from the acknowledgement of why you are doing this to begin with.

The word motivation seems to be misunderstood at times. The root, motive, should prompt us to look inward for the reasons as to why we do what we do. All too often, people wrongly look to others to provide them with their own purpose. Others may provide incentives for you or inspire you, but they cannot know your specific reasons for doing something. A majority of musicians tend to look outward for motivation and do not normally take the time to look inward for a clearer focus. Your motives must come from your own perception of what your personal best will bring to you and you alone.

It is virtually impossible to commit yourself wholeheartedly to anything without full understanding of why you are doing it. This question will arise early and often (especially when you have to practice scales on a Friday night!), and it would be wise to prepare an answer for it before it stops you dead in your tracks. Everybody has their own reasons for being a percussionist but not everybody is consciously aware of what they are. It is just a matter of digging them out of your head.

Mental energy is a form of power, and you have total control over it. Thought power is like that of radio waves: You can't see them working, but their effect is real and profound. By enforcing the control you have over this mental force and learning how to channel it into your intended outcome, you can directly influence your performance as a musician.

If you need proof, just ask any successful musician who was able to push themselves beyond sticking points on a regular basis. Even if it wasn't done consciously, they probably had reasons to justify the hard work and dedication. Right now, all of the power you need to reach your goals rests inside you. It is your job to summon that power out of your soul and allow it to drive you to the next level.

So, ask yourself: What is it about percussion that is exciting? What makes it so appealing? Who will you be when you reach your goal? How will you feel? How will others see you? What new music will you play or listen to? Link it to every aspect of your life – physical, mental, social – everything! This will now become your unlimited source of personal motivation.

You should try to discern at least five benefits you will receive, or want to receive, when you reach your goals. Dig deep and write down what you will ultimately experience when you get there. Putting your purpose on paper and reading it allows you to see, hear, and feel the reasons for your commitment – maybe for the first time. Being able to place direct purpose behind your action forms the

foundation for true commitment. When definite reasons are linked to practicing, it will become increasingly difficult for your brain to make excuses.

Honesty is vital at this point. Your overall effort is determined by the strength of your motives. Look at your purpose statement again. If you don't get even a little excited, ask yourself those questions one more time. We're looking for reasons a little more useful than "to be good". If you deceive yourself from the beginning with weak motives, you can only expect weak results. If the purpose to your behavior is rooted deep within, you may expect outstanding results. Strong motives automatically activate strong sustained effort towards the desired outcome.

Musicians who understand this seem to have an aura about them in the practice room. They exude a definite increased level of determination in every note they play, and never seem to stagnate. This is because they have learned to link purpose to their actions, which ensures that every note of every piece becomes a significant, meaningful element in the grand scheme of reaching their musical goal.

Another effective way to further bolster your motivation is to ask yourself what will happen if you do not achieve your goal. What will be lost if you never fulfill your dream? Again, link it to every aspect of your daily life and make another list of five things that you will not get if your goals are never met. You can use these negatives to distance yourself from the bad habits and thoughts that have sabotaged you in the past.

As you practice, only one or two key words or phrases from these lists will stand out in your mind. Your own character will determine whether you focus on the "possible benefits" and work toward them, or the "possible negatives" and work to avoid them. This subconscious struggle between pleasure and pain will dictate how much effort you put forth to achieve, avoid, or accept.

It may sound crazy to think that just knowing "why" can help you grow musically, but by acknowledging your own reasons, you provide your subconscious with the mental resources needed to effortlessly become more aware of and carry out the best cause for your intended effect. You will easily be able to direct yourself to the most appropriate next step to take – no matter what level you are or where you are going. In other words, you will have something to push yourself beyond your known limits.

Defining your direct purpose is all you require to break through plateaus, restore your passion for percussion, and avoid stale practice sessions. When you become consciously aware of your motives, there can be no turning back. Your subconscious will not allow nor accept it. If percussion is your love, then study your passion. Be true to the reasons behind your quest for your personal best and you will guarantee yourself endless progression and musical satisfaction.

The Author: ***ANDY HARNSBERGER*** *earned his Doctorate of Musical Arts in Performance and Literature at The Eastman School of Music in Rochester, New York, where he also received the prestigious Performer's Certificate. He completed his Bachelor of Music and Master of Music from Virginia Commonwealth University in Richmond, Virginia. He resides in Atlanta, Georgia and is active throughout the year as a marimba recitalist/clinician and freelance percussionist. Dr. Harnsberger is Director of Percussion Studies at Lee University in Cleveland, TN and is a performing artist and clinician for the Pearl/Adams Percussion Corporation, Innovative Percussion, Inc., and Sabian Cymbals, Ltd.*

WWW.PEARLDRUM.COM

Pearl®
The best reason to play drums.

ADAMS

The Importance of Proper Warm-up: Daily Warm-ups and Technical Exercises for Marimba

BY ANDY HARNSBERGER

Avoiding Injury by Warming Up

If you are anything like the average person, you are constantly faced with time constraints. Because of this, our practice sessions often turn into "note cramming sessions", where we try to learn as many notes as possible in a short amount of time, or play through our recital pieces up to tempo several times within that short period. Not only is this detrimental to the hands, but it can also be harmful to the overall performance in recital situations.

For many percussionists, warming up is walking into the practice room, picking up the mallets and whizzing through some scales or technical exercises. Remember you are using some very delicate muscles, and these muscles need to be warmed up BEFORE you use them. Just as athletes incorporate stretching into their warm-up routine, so should you stretch before you start to play.

I like to begin warming up by doing very gentle stretches with my arms, hands, and fingers. It is necessary to flex and extend the muscles, especially the thumb (*pollicis)*, forearm (*brachioradialis)*, and fingers (*digitorum)*. To get the blood flowing, I run hot water over my hands while continuing to stretch. This will take anywhere from 5 to 10 minutes, depending on your own circulation. For very poor circulation, you might try a "contrast bath" – 5 minutes in cold water, 5 minutes in hot water (repeat).

After you have warmed up your muscles, begin your exercises or easy playing on the instrument. Continue stretching and take short breaks occasionally, about 10 minutes every hour. By taking regular breaks, you get a chance to recuperate mentally as well as physically. Make it a ritual! Chances are, if you have warmed up properly you can practice longer hours without fatigue, and, if you must leave your practice session for an extended period of time, you are likely to still be warm when you return. Warming up properly and taking care of your hands during practice sessions can prevent serious injuries such as tendonitis and carpal tunnel syndrome.

Take the time to stretch your hands, arms, and wrists before extended practice sessions to avoid injury in the long run. Running your hands under warm water while stretching will improve your endurance. I have included a few warm-ups/technical exercises that will benefit the beginner to advanced mallet player. These exercises are beneficial to any player, regardless of the preferred grip.

Exercise 1
Always start your warm-ups with block chords – "double vertical strokes." By doing this, you are warming up the larger muscles first, before focusing on smaller muscle groups. This exercise is great for several reasons. It is meant to help develop the "piston" stroke: bringing the mallets back up to starting position after striking the instrument, and set for the next chord in the upstroke. Think of getting a good "lift" off the bars. This eliminates extra motion and forces you to think ahead to the next chord and position. It also helps to create a smooth, fluid motion between chords, and to increase the range of motion in your wrists. There are three elbow positions to concentrate on: neutral, inside, and outside. The first measure utilizes only neutral position – elbows straight, by your sides. In the second measure, on beat one, your left hand should be in an outside elbow shift – elbow away from your body. On beat two, both hands need to be in an inside elbow shift – elbows toward your side, or in front of your body. Pay particular attention to where your mallet placement is on the bar to avoid undesirable playing area. Strike each chord several times to get used to the stroke and elbow position. You should be concentrating on your sound production as well as body positioning, mallet placement, and piston stroke.

Exercise 2
This exercise focuses on "single independent strokes" with each mallet. The primary goal is to develop independence of the mallets. The most common mistake when practicing this exercise is taking it too fast. Concentrate on making each stroke the same, and get a good "lift" off the bar. Strive for an even balance in dynamic levels between mallets and evenness in stick height. I have written the exercise at an interval of perfect fifths when ascending and major thirds when descending, however, it would be useful to practice this exercise using many different intervals.

Exercises 3
Like exercise 1, this forces the player to think ahead. Exercise 3 utilizes the "single alternating stroke," going through the major chords and inversions in the form of arpeggios. Again, take it slowly to develop a good rotation and maintain good sound production. Use a pivot between each stroke (bringing the mallet back to playing position – piston stroke), not merely a rotation from one mallet to the next. For added skill, practice using minor, diminished, and augmented chords.

Exercise 4
Strive for an even sound between all four mallets. To gain control over accented patterns, focus on these general tips:

For accents with the outside mallet in a 1-2 permutation, there should be more of a down stroke and less rotation. In a 3-4 permutation, there should be more rotation and less of a down stroke.
For accents with the inside mallet in a 1-2 permutation, there should be more rotation and less down stroke. In a 3-4 permutation, there should be more down stroke and less rotation.

The exercise should be practiced with different permutations and at different intervals. Use the above guidelines when practicing other permutations.

Exercise 5
Use double vertical strokes with each hand, and practice using the piston stroke. Take the exercise slow enough to think ahead and concentrate on proper mallet placement and getting a good sound out of the bar.

Exercise 6
This exercise is for the development of one-handed rolls. Practice this exercise very slowly with a pivot between each note, and also work up to faster tempos using only a rotation from one mallet to the next. By practicing slowly, you will develop the necessary strength in your wrists to control the mallets. By practicing the rotation at different speeds, you will develop the skill necessary to execute one-handed rolls using varying speeds. Practice this exercise at different intervals as well. This exercise helps to develop the ability to start and stop rolls with each mallet.

All of the above exercises should be practiced slowly at first with a metronome to insure proper technique. Practicing at painfully slow tempos forces you to concentrate on each note, as well as focusing on technical problems, body positioning, and musical gestures. The exercises are guidelines. Use them as a foundation to create other exercises and incorporate them into your warm-up routine as well.

The Author: ***Andy Harnsberger*** *resides in Charleston, South Carolina and is active throughout the year as a recitalist, performing approximately 50 concerts per year. He is also in demand as a clinician across the country, presenting workshops and masterclasses at many universities each year. Dr. Harnsberger earned his Doctorate of Musical Arts in Performance and Literature at the Eastman School of Music in Rochester, New York, where he also received the prestigious Performer's Certificate. Andy is a performing artist and clinician for the Pearl Percussion Corporation and Adams Concert Percussion, Innovative Percussion, Inc., and Sabian Cymbals, Ltd.*