

A Revision of Joseph Prunner's *Progressive Studies for the Double Bass*

by

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ABSTRACT

The legacy of the great double bassist and pedagogue Joseph Prunner (1886-1969) includes his scale and arpeggio exercise book, *Progressive Studies for the Double Bass*, composed in 1955. *Progressive Studies* was originally written for Prunner's students at the Bucharest Conservatoire and was not intended for a wide publication. In the work Prunner presents major and harmonic and melodic minor scales that are performed in one octave and then extended diatonically through all their modes, progressing through this pattern for three octaves, followed by a series of arpeggio exercises. These exercises are based on a modernized fingering system and are offered in the traditional positions and in what Prunner called "Fixed-Position" scales. A series of chromatic scale exercises are also included that follow the template of the major and minor scales.

The study at hand is a revision and expansion of Prunner's work. The edition presented here intends to preserve the information that Prunner provided, fix the errors made in editing, and expand the study greatly by increasing the range of the exercises, providing more arpeggio exercises, creating melodic and harmonic minor "Fixed-Position" scales and arpeggio exercises, and including the study of double-stops.

In support of the revised and updated version of Progressive Studies, this study includes a biography of Joseph Prunner and a summary of the importance of the type of scale and arpeggio practice the collection of exercises supports. An explanation of the revisions made to Prunner's work and recommendations for using the exercises also precede the new edition.

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CHAPTER 1

INTRODUCTION

The development of the double bass and its techniques has been a long process. From its 17th- and 18th-century roots in the violone and viola da gamba, to the three-stringed instrument known by Dragonetti in the early 19th century, and by Bottesini in the late 19th century, and finally to the fourth-tuned, four-stringed instrument in the modern era, there have been many different forms and techniques known to the double bass. Due to the standards of performance established by Gary Karr, Francois Rabbath, Edgar Meyer, Thomas Martin, and others in the late 20th century, the demands put on the 21st-century double bassist have never been higher. While the standards of performance have risen to new levels, the common method and technique books employed are from the 19th and early 20th centuries. These studies need to be updated to keep up with the performance demands of the 21st century and with the capabilities of the modern double bass.

The document at hand is a revision and expansion of a scale and arpeggio system created by Austrian-born double bassist Joseph Prunner. Prunner's *Progressive Studies for the Double Bass* was written in 1955 during his tenure at the Bucharest Conservatoire and edited by his student Ion Cheptea. His exercises for scale and arpeggio study on the double bass are brilliant, but like many studies from the 20th century, they need revision to match the 21st century instrument.

Through consistent practice of the exercises in this revision, the double bassist will benefit in multiple ways from this comprehensive system of scales and arpeggios.

Born December 12, 1886, in Graz, Austria, Joseph Prunner continued the lineage of virtuosity and pedagogy established in the Viennese school of double bass by Joseph Kämpfer, Ignaz Woschitka, Friedrich Pischelberger, and J. M. Sperger. Prunner studied double bass at the Graz Conservatory with Professor Auringer, and, after relocating to Vienna, with Edward Madensky at the Vienna Conservatory. Ion Cheptea, a student and assistant of Prunner, says that it was under the tutelage of Madensky that Prunner's "...aptitude for music and his physical capacity fully developed to a still higher degree, acquiring an excellent technique and an elevated interpretive conception."¹ From this period devoted to the development of high-minded concepts and superior technique, Prunner was able to truly distinguish himself as a double bass virtuoso.

In January 1909 Prunner competed and won first place in the solo competition at the State Opera in Vienna. Felix Weingartner, with Bruno Walter as his assistant, chaired the judging committee. As a result of the new notoriety provided by this win, in March 1909 the Ministry of Education of Romania invited Prunner to serve as the appointed soloist with the Symphonic Orchestra of the Ministry. Once appointed to this position, Prunner proved himself to be

¹ Ion Cheptea, "Josif Prunner," *International Society of Bassists* Vol. 3, No. 1, IV-42 (Fall 1976) : 223.

the performer for whom they had hoped, regularly astonishing his colleagues with his virtuosity. Because of the great success he enjoyed at his position with the Symphonic Orchestra, Prunner was able to parlay his achievements into a much-deserved appointment as the double bass professor at the legendary Bucharest Conservatoire in 1911.

Once at the Conservatoire, the full impact of Prunner's pedagogical tools were felt. Due to the Viennese influence on his technique that Prunner developed early in his training, and the skills that he had developed in Eastern Europe, the resulting pedagogy found in his studio at the Bucharest Conservatoire was a mixture of the Viennese and Romanian schools of technique for the double bass. Prunner was responsible for this amalgamation of schools, which had lasting influence.

Feeling confined by the conventional literature available to the double bass, Prunner began a lifelong project of transcribing literature for the instrument. Because Prunner had an extraordinary memory, he did not notate many of his transcriptions. Some of his brilliant transcriptions that have survived are of J. S. Bach, Violin Partitas No. 2 (except the Ciaconna) and No. 3; Beethoven, Sonatas No. 1 and No. 5 for cello and piano; Brahms, Sonata in E Minor for cello and piano; and Adam Birkenstock's Violin Sonata in E minor. In addition, Prunner did editions of such double bass compositions as Koussevitzky's *Concerto for the*

Double Bass, Bottesini's Grand Duo, Madensky's Tarantella, and several other Romanian compositions.

As principal double bass for the George Enesco Philharmonic Orchestra in Bucharest for 48 years, a further 30 years with the orchestra of the Romanian Opera, and most importantly, 58 years as professor at the Bucharest Conservatoire, Prunner had a significant impact on double bass pedagogy and performance. For over 20 years, he gave solo recitals throughout Romania and in Vienna, Leipzig, Berlin, and Paris, earning himself a very high level of success and securing his place in double bass history. The double bass legend Edward Nanny said that he “considered Prunner among double bass virtuosos of all time,”² and later dedicated a composition to him. George Enesco, the conductor of the Bucharest Philharmonic Orchestra, in 1919 wrote: “Mr. Prunner is one of the eminent figures we have in our country, both as a teacher and as a soloist.”³ Prunner continued as an active performer and professor for much of his life, teaching until he was 74 and passing away on February 12, 1969. In the lineage of Joseph Prunner’s students, Ion Cheptea did the most to carry the torch of double bass method and technique as founded by Prunner. Cheptea was Prunner’s student and assistant before replacing him as professor of double bass at the Bucharest Conservatoire in 1961.

² Ibid.

³ Ibid.

In Prunner's *Progressive Studies for the Double Bass*, he presents major and harmonic and melodic minor scales that are performed in one octave and then extended diatonically through all their modes, progressing through this pattern for three octaves, followed by a series of arpeggio exercises. These exercises are offered in the traditional positions, and in what Prunner called "Fixed-Position" scales. A series of chromatic scale exercises are also offered that follow the template of the major and minor scales.

This study was originally written for Prunner's students at the Bucharest Conservatoire and was not intended for a wide publication. However, because of the high value of the study, it has been photocopied by several generations of double bassists. With each generation, the degradation of quality came to the point that some pages were blurred beyond recognition and reversed, and lines of notes and fingerings were cropped-out.

Because Prunner's study is too valuable to lose, the revised edition presented here intends to preserve the information that Prunner provided, fix the errors made in editing, and expand the study greatly by increasing the range of the exercises, providing more arpeggio exercises, creating melodic and harmonic minor "Fixed-Position" scales and arpeggio exercises, and including the study of double-stops through the application of concepts from Carl Flesch's scale and arpeggio system. All revisions and edits have been done by the writer, and the suggestions for use and pedagogy are based on 20 years of professional and pedagogical

experience on the double bass. Through the revision of Prunner's *Progressive Studies for the Double Bass*, double bassists of the 21st century will have available to them a comprehensive series of scale and arpeggio exercises designed to provide a means to the highest level of performance.

CHAPTER 2

WHY SHOULD I PRACTICE SCALES AND ARPEGGIOS?

“Why do I have to practice scales and arpeggios?” This is one of the most frequently asked questions that music teachers receive from their students.

Commonly, this inquiry originates from students who have been assigned scales and arpeggios to practice and dutifully followed their teachers’ instructions, but who have been doing so in a mindless, mechanical fashion, biding their time in anticipation of their solo or orchestral repertoire. This is a too-common scenario when it comes to young musicians’ attitude toward scales. If teachers do not make clear why scales are so important, their students will inevitably fall into an abyss of improper practice, wasting precious practice time. With direction and a sensible, comprehensive system to follow, students will see the logic behind such practice and are more likely to pursue and profit from scale study. The intention of the project at hand is to provide the student, teacher, and professional with a comprehensive scale and arpeggio system for the double bass that, with regular, methodical practice, will impart the tools needed to attain a higher degree of technical ability and aptitude throughout the full range of positions on the instrument.

The reasons that scale practice is essential to the development of any musician are obvious to the professional, but are often left unsaid and placed by teachers into the category of assumed knowledge. The first step in rectifying this

situation is for teachers to clarify the reasons for themselves. Famed violin performer and pedagogue Ivan Galamian wrote about the many benefits of scale practice in his *Principles of Violin Playing & Teaching*:

The scales have been studied ever since the violin has been played. Their great importance lies in the fact that they can serve as a vehicle for the development of a large number of technical skills in either the left or right hand. Scales build intonation and establish the frame of the hand; their usefulness for the practice of correlation was discussed; their applicability for the study of all bowings, of tone quality, of bow division, of dynamics, and of vibrato is almost endless.⁴

The first thing that every musician should do before performing is to complete a warm-up routine. Every musician knows this, but a great number of professionals, and most students, do without this important step. A good warm-up allows musicians to start focusing themselves both physically and mentally for the upcoming performance. Allowing the body to slowly adapt and adjust to the demands of performance will help to stave off, if not eliminate, the inevitable physical pains that come from repetitive motions and the unnatural postures that playing an instrument requires. Scales and arpeggios long have been known to be the perfect medium for the warm-up routine. They can be played slowly to get the body moving in a controlled, consistent way, allowing both the body and brain of the performer to awaken in a natural manner and increasing the likelihood of a relaxed, tension-free performance. By having an established warm-up exercise before any type of performance, be it a practice session or a concert, the musician

⁴ Ivan Galamian, *Principles of Violin Playing & Teaching* (Englewood Cliffs: Prentice-Hall, Inc., 1985) , 102.

can focus on the fine points of technique before having to utilize these skills at their highest level.

In the process of the preparation for performance, musicians often overlook the mental aspect of performance, the need to permit one's psyche to be in a calm, relaxed place. Typically, musicians are in a hurry to get to the rehearsal or the concert and do not have the time to do a proper warm-up. They will quickly tune, play a few cursory notes, and start performing. With all of the pressing concerns and rushing around in the outside world, it is imperative for musicians to take time to relax, clear their thoughts, and reconnect with their musical world before they start performing. A scale-and-arpeggio-based warm-up routine not only prepares the muscles of the body for the performance, it also encourages mental preparation by creating the opportunity for reconnection and relaxation.

One of the biggest challenges for every performing musician is finding enough time to practice. Performance students in schools of music will have repertoire for their studio lessons, school orchestra, chamber music, and auditions that needs to be practiced, and they must keep up with their academic studies as well. Professional musicians know that in order to stay at the top of their game, they still need to be doing the regular, focused practice that allows them to work out the fine kinks in their technique in an efficient manner. However, because of

their performance calendar and life demands, they simply do not have the time they would like to devote to technique practice.

Both the student and the professional alike share a similar problem: too much music, not enough time. Unfortunately, when confronted with this dilemma, almost all musicians will forego their technique practice for the immediacy of the music that must be learned for the next day. However, if technique practice is neglected, the music that must be practiced and performed in the immediate future will be more difficult to learn, and it will not be performed with the same competency as it would be if technique practice had been taken more seriously. In his book *Six Lessons with Yehudi Menuhin*, the American violinist remarks on the need to focus one's practice routine on technique:

...having analysed and practised individual movements in great detail, we finally digest and absorb them until they become one smooth, composite and almost subconscious wave. We gradually lose and forget the theoretical scaffolding. This is of course the ideal state, provided always that we can return to repair our technical structure whenever it needs it – which is almost every day.⁵

The best way “to repair our technical structure” is through scale and arpeggio practice.

The famed Hungarian violinist Kato Havas comments on the importance of scales:

If you look at any classical music and learn to analyse it...you will find that the foundation of the most complex piece is often based on only a

⁵ Yehudi Menuhin, *Six Lessons with Yehudi Menuhin* (London: Faber Music Ltd, 1971) , 114.

few notes from a certain scale...to some people, scales mean no more than boredom and drudgery. But if the scales are approached as the foundation of all music (which of course they *are*) this misconception no longer holds true.⁶

Here, because scales, arpeggios, and the patterns thereof can be thought of as the vocabulary of music, their practice is required for the mastery of the “language” of music. Regular scale and arpeggio practice is the most efficient means to a higher level of performance. In the preface to his *Scale System for the Violin*, Carl Flesch writes:

Long years of practical experience have strengthened my conviction that the System of Scales, in consequence of its universal and concise form provides a method of practice, beneficial not only for technical development in general but also for the saving of considerable time...⁷

One benefit of scale and arpeggio practice is that it offers an opportunity for the musician to find a comfortable playing posture. With scales and arpeggios, the music is reduced to an elemental level, and so the musician can focus on keeping the body in a proper position, something that can be overlooked when one is drawn into practicing a passage that has been causing difficulties.

Fingerings are the foundation for any scale system, and the value of a scale system can be measured by the validity of those fingerings. A good fingering system will establish a rudimentary default for the musician that with use will develop into an instinctual knowledge of the fingerboard. With enough practice,

⁶ Kato Havas, *The Twelve Lesson Course in A New Approach to Violin Playing* (Bosworth & Co, 1964) , 63.

⁷ Carl Flesch, *The Art of Violin Playing, Scale Exercises in All Major and Minor Keys for Daily Study* (New York: Carl Fischer, 1926) , i.

for example, the fingering for a C-major scale will become as second nature as signing one's name. Such instinctual knowledge of the fingerboard is often referred to as "muscle memory."

While focusing on scales and arpeggios and establishing fingerings in a methodical manner, one can thoroughly investigate and establish proper left-hand technique. Because the left hand pushes down the string and establishes pitch, proper left-hand technique is essential. Good technique is what should make performing on one's instrument easy. Kato Havas comments on the correlation between a lack of tension and anxiety for the musician, saying: "The difficulties lie in the false notion that violin playing depends on the use of some sort of superimposed pressure or force. This mistaken idea inevitably results in faulty movements which in turn create an overall state of anxiety."⁸ While there will be some discrepancies among method systems for musicians, their core concept will remain the same: to make performance as effortless and tension-free as possible. For this to transpire, the left-hand must always be in the optimal positioning. Through practice routines that include methodical work on scales and arpeggios, string musicians can study the movements of their fingers over the full range of the instrument. They can ensure that the proper finger curvature is being achieved and that the thumb is in the proper position on the neck of the instrument. The way each finger moves from pitch to pitch can be examined so that the tendencies

⁸ Kato Havas, *The Twelve Lesson Course...*, 2.

for error can be found and corrected. Because a good scale and arpeggio system will cover the full range of the instrument, it is of particular value because the technique that is required of the left-hand changes greatly with the progression up the fingerboard.

Through the repetition of basic finger combinations that are found in scale and arpeggio practice, the tactile sensation of moving from pitch to pitch while staying connected to the string gets imprinted onto the brain (a sort of mental tape measure). As a result of this training the performer knows where every note is on the fingerboard, and because proper technique has been established from the beginning, the musician's muscle memory has established the correct, guiding sensation. Donald Hamann and Robert Gillespie write of the importance of finger training and the implications for the development of intonation:

Appropriate intonation on stringed instruments involves proper finger placement on a string and is no more complicated than placing a finger at an appropriate point on the fingerboard...Kinesthetic memory, along with aural memory and assessment, is needed to help "train the hand and the ear." Proper instrument and left-hand shape are essential for this process to be successful. Additionally, the student must realize when any given pitch is not in tune and then must recognize what action needs to be taken to produce the correct pitch.⁹

For string players to perform with consistently reliable intonation, it is crucial that they have the ability to rely on their muscle memory to shift from pitch to

⁹ Donald L. Hamann and Robert Gillespie, *Strategies for Teaching Strings* (New York: Oxford University Press, 2004) , 135.

pitch around their instrument. The hand simply must “know” where to go, and what it should feel like when it is there.

A fingering system can be thought of as the mapping of the fingerboard, and it will provide all the routes through the instrument. Just as a map will have several routes to a location, and have several different reasons for taking any of those routes, a fingering system should provide several different options for the musician to follow so that they can have the best fingering for a given passage. Some notes sound better than others on each instrument, and all instruments have their strengths and weaknesses and differences of timbre. To find the best sound and to blend as much as possible in a string section, all options must be available for fingerings. It takes musicians of the highest caliber and technical ability to adjust their timbre so that a section of instruments sounds as one.

A useful scale system should provide numerous fingerings, but it should also have a core consistency that provides the foundation for any path through the instrument. The horizontal and vertical aspects of a path may vary, but the fingering combinations between half-step and whole-step intervals and the basic shifting patterns should stay consistent. These patterns will be engrained into the psyche, becoming the basis for the establishment of reliable muscle memory.

The coordination of the left and right hands, and the resulting variables, are also of paramount importance. Yehudi Menuhin offers a holistic view of the connection between coordination of the hands and successful performance:

“...one cannot think of violin playing until the separate functions of each arm become one function, one activity. Like love which requires two to become one, so violin playing only becomes alive with the complete integration and co-ordination of both hands.”¹⁰

One aspect of coordinating the left and right hands, for which scales and arpeggios are an invaluable tool, seems elementary but is perhaps one of the principal technical challenges that confront the string family, and that is getting the bow direction to simultaneously change with the fingers. It seems an easy enough task to coordinate the change of notes between the two hands, but this challenge becomes more difficult as tempos increase and bowing patterns get more difficult. During the practice of scales and arpeggios, this coordination can be worked on at a high level of detail. By employing a metronome and working with various tempos and bowings to refine timing, the techniques that will be required for optimum performance will be developed naturally. As confidence increases in the scales, the musician will relax more, and the tempo of the scale can be slowly increased (using the metronome) without causing an increased level of tension in the performer, one of the main causes of coordination problems between the two hands. As the tension increases in the performer's body, the muscles that move the bow become restricted and slow down, and as a result the bow will lag behind the fingers of the left-hand when they change pitches, making for a very muddy,

¹⁰ Menuhin, *Six Lessons...*, 126.

indistinct sound. Kato Havas writes of the keen importance of using different bowing patterns in practice to establish coordination between the hands:

Let us take the bow-stroke as an example. Whereas the balance of the right arm creates a perfect entity while playing on the open strings, when it comes to the interval progression from one finger to another, it would be senseless to rush on regardless with the bow, unless the left finger action, according to the demands of the interval progression was ready to *receive* the stroke. And as the facility of the finger action is obviously varied according to the size of the interval and the preparation necessary for it, the bow-stroke must vary accordingly. But if the balances are right, and the command of the left finger action is secure, the bow-stroke will instinctively respond, without the player having to give it a thought.¹¹

When techniques have been practiced and developed in an organic fashion, they are far more engrained in the musician, who is much more likely to perform in a relaxed, tension-free manner. As a result, the performer will be able to focus attention on the expressive qualities of the music. Without expression, music is merely a bunch of notes on a page, but with the addition of dynamics and articulations a piece of music comes to life. Because scales and arpeggios are the building blocks removed from musical context, they can be thought of as music without expression. They are the perfect blank slate for the development of the techniques required to perform all the expressive qualities of a composition, as they can be practiced with the varying dynamics and articulations that every composer will require.

¹¹ Havas, *The Twelve Lesson Course...*, 58.

The foundation for the execution of dynamics and articulations is bowing. Again, scales and arpeggios are the ideal medium for work on this technique, because they can be practiced with the myriad of bowing patterns that a string musician will encounter. When practicing and refining bowing patterns through scales and arpeggios, the musician is conditioned to perform in the most relaxed and controlled situation possible.

In one's practice, the key to bringing all of these bowing techniques together is repetition. A bowing must be repeated until the technique becomes second nature to the performer; only then will the same feeling and sound be replicated in performance. Through this repetition in scale practice, another tool is being simultaneously developed that is invaluable to the delivery of a superior performance, and that is mental and physical stamina. At the beginning of a performance, if one is properly warmed up physically and mentally, it is less challenging to perform at one's highest level. The real challenge occurs in the final movement of a long symphony, when the most difficult music is yet to come.

Because repetition is a key element of scale and arpeggio practice, physical and mental stamina as well as dexterity are being developed as a result. Like any muscle group in the body, the hands become stronger, and more agile and dexterous, with the proper training. There can be a marked difference from day to day with practice on a regular schedule. However, if one does not practice or perform for at least a few minutes in a day, the degradation of the muscles

developed in the hands happens very quickly. Practice cannot be done once or twice a week, it must be done daily. With practice based on a good scale and arpeggio system, all of the left-hand will be trained in an equal and consistent manner, which will ensure that strength and dexterity across the entire hand are being developed.

With the repetition of scales and arpeggios in practice, one can become mentally fatigued trying to focus on all of the technical factors involved. As a result, the quality of the practice session diminishes. For a musician to practice scales, bowings, articulations, and so on for an hour or more, it takes the highest level of concentration. The performer who practices at the highest level of concentration will also tend to perform at this same level of focus. Concentration and drive help to make the best musicians what they are, and to perform at these top levels one must practice in a like manner.

Another basic requirement for any performer is good intonation. In any audition, intonation will be one of the primary factors on which one is judged, and a musician who does not perform with dependable intonation will never be taken seriously. Intonation is the Achilles heel for almost every performer in the string family. Some string players start to think that they always play in tune, and so they stop focusing on this critical element in their practice. In order for a performer to maintain dependable intonation, it must constantly be cultivated,

never taken for granted, and always in the forefront of the performer's consciousness.

Intonation is both concrete and fluid, and in order to perform in tune, one must have a firm grasp of both types. A performer who has the ability to match pitch with a fixed-pitch instrument or device on a consistent basis demonstrates concrete intonation. Fluid intonation is the world in which virtually all performance exists, where the musician must constantly be ready to adjust to the physical changes that occur to instruments. While some string players might find marks on their fingerboard useful, because of the fluidity of pitch they must not become dependent on a visual cue for intonation. In his book *Introduction to the Double Bass*, Raymond Elgar states in his tips on practicing: "When practising, do not look at the fingers---the ear must direct for intonation."¹² For orchestral performers to be successful they must have the ability both to match the oboe pitch when the orchestra is tuning and to blend their intonation with the rest of the orchestra if the pitch starts to vary.

In the struggle to establish and maintain consistently first-rate intonation, the greatest tools that musicians can employ are scales and arpeggios. The constant repetition of these patterns imprints their sound into the musician, imparting the skill of knowing how the music is intended to sound. This is a critical skill for any musician, but it is especially critical when performing as an

¹² Raymond Elgar, *Introduction to the Double Bass* (Sussex: Raymond Elgar, 1960) , 106.

unaccompanied solo artist. Without a reference point for intonation, it is hard to know that you are performing with bad intonation if you do not have a solid internal concept of pitch.

The skill of “hearing” a composition solely by looking at the notated music is of such paramount importance that it is a basic requirement for all musicians training at a higher-education level. In their book on developing a string program, Donald Hamann and Robert Gillespie remark on the importance of aural skills training for string musicians:

The development of aural or listening skills in the string class is critical. Refining aural skills helps students play in tune by developing their pitch discrimination skills, as well as by helping them coordinate their right and left hands and memorize music. Well-developed aural skills lay the foundation for successful string playing by young students...¹³

When using scales and arpeggios both for the development of technique and as an exercise in pitch discrimination, the skill to adjust a note that is slightly out of tune becomes second nature to the performer, who is constantly required to fine-tune while practicing scales. “This keen awareness of the delicate interval colouring is of course closely connected with ear training, the preparation of each note, and the continuous shift of balances in the left hand finger-action. And to achieve any skill in this combination, a thorough knowledge of scales is indispensable.”¹⁴ Through a diligent practice routine that combines scale practice

¹³ Donald L. Hamann and Robert Gillespie, *Strategies for Teaching Strings* (New York: Oxford University Press, 2004) , 59.

¹⁴ Havas, *The Twelve Lesson Course...*, 63.

with aural skills training, one will be able to anticipate areas that tend to have intonation difficulties and prevent intonation glitches before they occur in performance. The recipe for reliable intonation is a combination of ingredients: a solid background in aural skills training (educating one's ear), a comprehensive program to instill proper technique (training one's body), and confidence in one's ability to perform at a superior level. While this recipe will not guarantee that the performer will always play perfectly in tune, it will certainly increase the performer's level of perception.

Virtuoso double bassist Gary Karr comments on the paramount importance of ear training for string players:

In 1961, at the age of 19, I went to Chicago for my first solo engagement and spent a semester working with Warren Benfield at Northwestern University. We played lots of orchestral excerpts and he worked with me on ear training and *solfege*, which allowed me to learn music away from the instrument... Many string players make the assumption that string fingering is the same as on a keyboard and that you just have to put your finger down on the right note; in fact, the notes have to be in your head already before you play.¹⁵

In the process of learning how to play the different pitches on an instrument, the beginner can easily be overwhelmed by all of the different fingerings and positions that must be memorized, while simultaneously learning the corresponding pitches on the staff. For most, this stage of development can be very frustrating and confusing, and in the worst cases it causes some to quit entirely. Scales and arpeggios have continuously been the pedagogical tool that

¹⁵ Gary Karr, "Schlock buster," *The Strad*, Vol. 114 Issue 1361 (September 2003) : 981.

teachers have called on to guide the beginning student through this difficult phase of development. New notes can be introduced to the student, especially in chromatic scales, while reviewing and reinforcing the fingering patterns that have previously been learned. If the student is using a scale and arpeggio method that progresses through the circle of fifths or fourths, they will be introduced to all of the different pitches that their instrument can produce and will know how to read those pitches on a staff.

The ability to sight-read music is a skill required of any functional musician, and it becomes more vital the further one develops. To be successful at sight-reading at any level of performance, one must possess the ability to visually recognize the patterns in the notated music before it is performed. The musicians who have undergone diligent study of scales and arpeggios will easily be able to recognize those patterns in the composition they are sight-reading, and will have internalized the most efficient fingerings and routes through their instrument for the most successful performance.

No matter how proficient anyone becomes at sight-reading music, there will inevitably be a time when they will be required to practice a passage. For the beginner, whose proficiency level for sight-reading can be quite low, nearly every passage of music must be practiced for there to be any hope of a successful performance. Because of this lack of experience, the process of learning and perfecting a difficult passage can be a very frustrating process. The teacher holds

a great level of responsibility to guide the student through a proper practice routine that progresses in a logical fashion. Just as students do not hold the inherent knowledge that is needed to play their instrument, they also need to be taught how to practice properly. During practice of a difficult passage, the learning curve for competent performance will be far less sharp for the musicians who possess a high understanding of scales and arpeggios, because they will have the ability to quickly recognize and finger the scales or arpeggios on which the passage is based.

The most expeditious route to being a competent and confident musician is through comprehensive study of scales and arpeggios as part of the fundamental training. There is no other single tool for one to employ that can cover as many of the variables that are required to be practiced simultaneously. Through this device musicians can warm up their muscles and brain to perform; fine-tune their ears through aural skills training; learn and perfect the fundamental techniques of their instrument; and begin an understanding of music theory through the internalization of the basic musical vocabulary. Although it can be difficult for a teacher to get the student to fully grasp the necessity of all of these concepts, they provide a basis for the understanding of the importance of scale and arpeggio practice. So when a teacher is predictably asked by a student, “Why do I have to practice scales and arpeggios?” They may simply respond, “Because I want you to be the best musician that you can. As quickly as possible.”

CHAPTER 3

EXPLANATION OF THE REVISIONS OF PRUNNER'S STUDIES

The core concept of the scale and arpeggio system presented here originates from the famed double bassist Joseph Prunner (1886-1969), who composed his scale and arpeggio system during his tenure as the double bass professor at the Bucharest Conservatoire. In his *Progressive Studies for the Double Bass* (1955), edited by his student and successor Ion Cheptea, Prunner revised and modernized the fingering systems from the famed but outdated studies of Franz Simandl (1840-1912),¹⁶ Joseph Storch (1840-1877) and Joseph Hrabě (1816-1870),¹⁷ Rodolphe Kreutzer (1766-1831),¹⁸ and Philippe Libon (1775-1838),¹⁹ producing a vertical and horizontal system of major, melodic and harmonic minor, and chromatic scales, in two to three octaves, cycling through all of the modes of these scales, and including a full system of arpeggiations for the major and minor scales. While the concept of practicing scales and arpeggios through the use of the modes is not unique to Joseph Prunner, the real magic comes from the employment and internalization of his fingering system.

¹⁶ Franz Simandl, *New Method for String Bass, pt. 1*. ed. Stuart Sankey (New York: International Music Company, 1968).

¹⁷ Josef Emanuel Storch and Josef Hrabě, *57 Studies for String Bass*, ed. Theodore A. Findeisen and Frederick Zimmermann (New York: International Music Company, 1948).

¹⁸ Rodolphe Kreutzer, *18 Studies for String Bass*. ed. Franz Simandl and Frederick Zimmermann (New York: International Music Company, 1950).

¹⁹ Philippe Libon, *12 Studies for String Bass*. ed. Stuart Sankey (New York: International Music Company, 1970).

Previous fingering systems and exercises for the double bass, like those offered by Simandl, Kreutzer, Libon, Storch-Hrabe, and others, while they are effective and have some merit, were written for an instrument whose capabilities and demands have changed greatly from when these technique books were written, most in the 19th century. The double bass has gone through many technological developments, most significantly the standardization of tuning and number of strings, as well as the construction of the strings themselves. With modern steel strings, as opposed to the gut strings of our predecessors, the double bass can be performed with a much lower and forgiving action, allowing for a far greater ease of facility in all positions of the instrument, especially so in the upper positions, where performance on the lower-tension, higher-diameter gut strings was challenging outside the use of harmonics. Because of these innovations, the double bass needed an equally innovative fingering system.

The fingering system of Joseph Prunner is one that utilizes all fingers of the hand equally, and in turn develops the entire left-hand in a manner that minimizes the under-development of the third and fourth fingers. Typically, in the older fingering methods, the fingerboard of the double bass is set up in a grid of several different positions. This is a standard pedagogical technique for all string instruments, and is a useful tool for referring to pitches by the position in which they are performed. But the problem that arises with this method, when it is applied to the double bass, is that the entire left-hand is not developed equally.

The fingerboard is set up in positions from the lowest in pitch to the highest, and the third finger and thumb are not employed to push down the strings until the octave is reached on each string. As a result the left-hand is not developed evenly, as it could take years before the student reaches the octave in their studies. This situation as well can lead to some psychological blocks against playing in the upper positions that are very difficult to overcome for some double bassists.

The famed double bass soloist and pedagogue Gary Karr faces this problem head-on in his modern, and somewhat controversial, method by having the student start at the octave harmonic with the third finger, and from there working even higher on harmonics. By doing this, the students see from a very early stage in their development that the double bass can be played in all positions, not just the lowest ones, and the method avoids the psychological blocks against playing in the upper positions of the fingerboard. Also, because harmonics are used and not open strings, the student does not have the struggle of getting 42 inches of string to vibrate, but rather 21 inches, which is a far easier task. While this method is very effective in developing a high degree of comfort throughout all positions of the double bass, it is best used in conjunction with a method that employs scale and arpeggio study.

In Joseph Prunner's system, a scale is performed in one octave and then it is extended diatonically through all of its modes, progressing through this pattern for three octaves. Because it goes through all of the permutations, this approach

leads to total mastery of the scale. Prunner's scale system is not in concept completely unique, as there are several examples of double bass methods and scale systems that employ a similar approach. Its exceptionalism comes from the comprehensive execution of the concept.

Previous scale systems that are similar to Prunner's will also cycle through the modes of the scale that is being studied, but generally in a truncated manner, using primarily only the major scales as the template, and for only one octave. In contrast, Prunner carries the approach to the extreme, employing major, melodic and harmonic minor scales, arpeggios, and chromatic scales, all in three octaves (with the exceptions of D and E-flat, which are two octaves). Also included is a system of fixed-position scales that uses major scales and their modes to teach a horizontal fingering system in the upper positions of the double bass. Another aspect of the Prunner scale system that is exceptional, and what makes it truly unique, is his fingering system, in particular the comprehensiveness with which the notes are fingered.

While virtually all methods and scale systems include fingerings, the consistency of the fingerings themselves and the addition of those fingerings leave the user with too many questions. The more structure in the scale or method book, the better. If there is too much left open for interpretation when it comes to fingerings, the concept can be lost. A scale system should provide a means by which a performer can negotiate the fingerboard of the instrument (a fingering) in a

manner that is consistent and reliable; lacking this, it is simply a set of scales and arpeggios on the page. Fingerings provide order and direction, the route through the maze.

The Prunner system strives for consistency in the fingering of the scales and arpeggios and also in the addition of those fingerings to the music. There is no question as to what the fingering is supposed to be in any of the scales or arpeggios. Some might find this to be confining, but because of this consistency, the left-hand is trained in such way that it will simply “know” where it is supposed to go. The muscle memory of the fingerboard is so ingrained into the performer that very quickly the fingering system becomes automatic and is transferred into regular performance practice in a very natural fashion. Because the scale and arpeggio system covers such a wide range (three octaves), the entire left-hand is being trained in a consistent fashion, allowing equal development of finger strength across the entire hand. The wide range also helps to prevent psychological difficulties with the upper positions of the fingerboard, by training the double bassist in all positions in a consistent fashion. The upper positions of the fingerboard will probably never be as dependable as the lower, but if the training of them is neglected, performance in those positions will never be satisfactory.

With Prunner’s fingering system for scales and arpeggios, the double bassist is trained in a method that is referred to as the “Open-Hand Technique.”

This technique allows and encourages the left-hand to be opened, or more spread out, thus accessing pitches that in previous fingering systems would have required a shift. Pivoting the left-hand within a position, rather than shifting, allows for a higher degree of agility and speed, and generally better intonation. In the more traditional methods, the fingerboard is divided into numerous positions, and fingerings are based on those positions. This approach generally keeps the left-hand in a closed-hand position (accessing one position at a time), playing horizontally across the instrument in first and half positions on the E, A, and D strings, reserving the great majority of the vertical shifting to be performed on the G string. Because the modern double bass has become more technically accessible across all positions, Prunner's "Open-Hand Technique" is now an advantageous approach. It is a technique that the rest of the string family has been using for hundreds of years, and Prunner has brilliantly adapted it to the double bass.

Pivoting positions instead of shifting positions is a technique that our smaller stringed cousins have taken for granted. Violinists, violists, and cellists regularly access several different positions without ever moving their thumbs, essentially reaching horizontally across the fingerboard. Yet because of the pivot, they are able to move vertically as well, opening up several different positions without ever having to perform a traditional shift. While the double bass will never have the fingerboard accessibility of a violin, the use of the pivot does allow access (depending on the size of the performer's hand) to the first three chromatic

positions, all without the use of a traditional shift. The increased accessibility gained from the pivot in these positions is very advantageous for virtually all applications of double bass performance. Because these positions are used so frequently, they have been commonly dubbed the “money” part of the double bass. These positions are where we make our money, and to make a living on the double bass, these positions must be fluent and the intonation absolutely secure.

Prunner’s “Open-Hand Technique” really shows its practicality when being employed in thumb position on the double bass. In the pursuit of mastery of all positions on the double bass, the template for accessibility of the fingerboard in thumb position must come from the cello. Cellists have long been lauded for their technical prowess in the upper positions of their fingerboard, and due partly to this expertise the cello is recognized as a legitimate solo instrument. Prunner’s “Open Hand Technique” in the thumb position of the double bass is an adaptation of the thumb position techniques that cellists have been employing for hundreds of years. In traditional fingering systems and methods for the double bass, thumb position is treated like the lower positions, with each position and what fingers can be used clearly defined. However, with Prunner’s techniques, the position lines are blurred and permit the double bassist to mimic the template for thumb position used by cellists.

The value of Prunner’s fingering system becomes abundantly clear when applied to the performance of arpeggios in thumb position. For the typical double

bassist, such arpeggios are called for in the solo repertoire, which requires a high degree of comfort with arpeggios throughout all positions of the fingerboard. By following the techniques and exercises for arpeggio training that Prunner provides, the double bassist will be properly prepared to face the arpeggio challenges found in the repertoire.

Prunner's fingering system for arpeggios is unique in that it replaces positional playing with the "Open Hand Technique," pivoting through a full-octave arpeggio using each finger (thumb, 1, 2, 3) in succession on each of the pitches, allowing for the fastest and most effortless route up the fingerboard. The ability to execute an octave arpeggio without the use of a traditional shift is a huge advantage when the performer encounters consecutive arpeggios at the ridiculously fast tempos typically found in solo repertoire. The less shifting that is required to negotiate any technical passage, the more likely that the passage will be performed easily, confidently, and accurately.

The revision presented here of Prunner's *Progressive Studies for the Double Bass* has as its first aim to retain and preserve all of the original scales and arpeggios with the fingerings and bowings that were in the original book, for posterity and the benefit of future generations of double bassists. A scale and arpeggio system written by one of the finest performers and pedagogues of the double bass is too valuable a resource to be lost. Because of the time in which it was written, naturally it was available only in a hardcopy format. With the

current revision, Prunner's work will now be preserved in a digital format, making it more accessible to the user and secured for future generations of double bassists.

Another goal of the revisions is to correct the errors in notes and fingerings in the manuscript that were made by the copyist, and to clarify any of the fingerings or positions that seemed to be ambiguous. The revision supplies a fingering for every note, clarifies positions by including more string name indications, and provides more position markers throughout both the scales and the arpeggios.

While there were not a significant number of errors in Prunner's original book, there were several instances of accidentals being omitted or in the wrong places, and of fingerings that were obviously incorrect. The ambiguities created by the errors certainly did not make the book unusable, but they were at times significant enough to cause a great deal of confusion.

The goal in this area of the revision of Prunner's system was to eliminate as much as possible all opportunity for confusion in fingerings or positions, by including a fingering for every note and expanding the use of string markers and position brackets. Too often, publishers will put a fingering into a scale or arpeggio pattern only the first time that it is printed, leaving the user to surmise fingerings based on previous examples.

Putting all of this information into each of the scale and arpeggio exercises thus serves the purpose of permitting the user to play from any point in the book

without being required to look back at any of the previous scales to get the correct fingerings. For the double bassist, it is extremely advantageous to have a scale and arpeggio book that can be employed as a guide for practice in any key. When double bassists must play a piece in an unfamiliar or uncomfortable key, they can come to this book and have an entire set of scales and arpeggios that are fully fingered ready to help them become more familiar and comfortable with that key. This book can serve as a guide to which the double bassist can refer for scale and arpeggio patterns.

Another goal of the revision of Prunner's studies was to complete and expand its scope through widening the range of the scales and arpeggios to a full three octaves from the tonic in every key, standardizing the arpeggios for the scales, and providing a set of arpeggios for the fixed-position scales. In addition, the revision offers the fixed-position scales in harmonic and melodic minor, expands the number of options for bowing variations for the scales, and provides bowings for both the arpeggios and fixed-position scales.

Traditionally, the expectation of performance ability on the double bass has been limited by the physical requirements of the instrument and a general lack of respect for the capabilities of the instrument and the performer. In his description of mid-18th-century double bass technique and tone production, Johann Joachim Quantz said:

On this instrument the bow-stroke must fall about the breadth of six fingers from the bridge, must be very short, and must, if time permits,

be detached from the string, so that the long and thick strings can make the necessary vibrations. It must also be made nearly always from the lowest part of the middle of the bow, and jerked, rather than sawed back and forth, except in very melancholy pieces, where the bow-stroke must still be short, but must not be taken with such haste. Except in passages marked Piano, the tip of the bow is generally of little effect.²⁰

The double bass has undergone some significant alterations since the time that Prunner wrote his studies, and certainly since Quantz wrote his treatise, both in physical construction and in the strings used. Because these alterations had the effect of expanding upward in pitch the functional positions and the practical range of the instrument, the studies needed to be expanded to accommodate the capabilities of the modern double bass.

The first strings for the double bass were constructed from the intestines of farm animals, most typically sheep, and were accordingly called *œgut* strings.” Gut strings remained the standard into the 20th century, when synthetic metal compounds were perfected and found to be useful for string instrument construction. In the modern era, the “steel” strings that most string instruments use are in fact a complex alloy that is usually wrapped around a core constructed of either rope or a twisted alloy. The change from gut to steel or metal strings by musicians was made primarily because gut strings are more vulnerable to intonation instability due to environmental conditions. They are also slower to

²⁰ Johann Joachim Quantz, *On Playing the Flute* (New York: Schirmer Books, 1966) , 248.

respond to the transient, they oscillate in a wider amplitude, and they are more prone to breakage than steel strings.

The conversion from gut to steel strings on the double bass changed its sound and capabilities, and as a result had a profound effect on the instrument's technique. When Raymond Elgar in the early 1960s wrote his book on the double bass, the instrument was in the midst of its transition. Elgar writes of the new capabilities and change of sound: "The long leg bridge and metal strings will make the bass sound rather like a cello, which is suitable for solo players, steel strings are especially good for double stops in the second octave and all harmonics..."²¹

Because steel strings are much stronger than gut strings, they can be strung at a higher tension. This additional tension on the string reduces the oscillating amplitude when it is activated, permitting the distance between the string and fingerboard to be reduced (the action) and making performance on the double bass practical in more positions. As Paul Brun describes it, "Modern low-action metal strings offer the bass players new, expanded possibilities. For example, they speak quickly and easily, and they are far superior in durability and dependability with gut strings... This, naturally, promotes an expanding technique and helps establish the bass as a major virtuoso instrument."²² With modern steel strings, double bassists can perform with a clear tone in the higher positions on the E and

²¹ Raymond Elgar, *More About the Double Bass* (Sussex: Raymond Elgar, 1963) , 124.

²² Paul Brun, *A New History of the Double Bass* (Villeneuve d'Ascq: Paul Brun Productions, 2000) , 213.

A strings, particularly when lighter-gauge strings are used, where this was not possible with the action that gut strings required. This opening-up of the previously non-functional upper positions on the E and A strings expanded the range of horizontal position playing to levels that were previously unknown.

The other significant innovation that has come to the double bass, which is a direct result of innovations in string technology, is the lengthening of the fingerboard. Each string of the typical double bass has a range of two octaves and a fourth that can be fingered functionally on the fingerboard. On the G string, the highest and most commonly used string in the upper register, this gives the performer a (sounding) C-natural (C5) as the highest pitch that can be fingered. Some fingerboards do go up to D-natural (D5), but this pitch will usually be performed as a harmonic, as it will be more secure and generally have a better sound. Any pitch higher than this must be performed either as a harmonic or by pulling the string to the side, creating an artificial fingerboard with the fingertips. This requirement causes difficulties when the double bassist is performing fast passages or with a large amount of vibrato in the higher positions.

As the functional range of the double bass increased upward, more music was composed that requires a high degree of technical virtuosity in the upper positions, outside the range of the fingerboard. To combat the incongruence between the music and the equipment, there has been a movement recently by string luthiers to outfit double basses with fingerboards of three-octave range.

While this fingerboard is not the standard for double basses at this time, it is currently in use, being added to existing instruments, and it will eventually become the standard on new professional-caliber solo double basses.

In Example 1 is the D-major arpeggio exercise presented in the original version of Prunner's studies. Prunner wrote all but two of the scale and arpeggio exercises for three octaves, limiting the range of the D and E-flat exercises to only two octaves in all forms of the scales. He also altered the established pattern for the arpeggios to leap downward initially in order to span a full three octaves. The alteration of the range for these keys by Prunner was a result of the lack of functionality of these positions on the double bass of his era. While there were double bassists who utilized these positions in performance, the rarity of this situation led to the modification of the established three-octave pattern.

ARPEGII RE MAJOR ÎN TREI OCTAVE

EXAMPLE 1: Prunner's D-Major Arpeggio Exercise²³

²³ Joseph Prunner, *Progressive Studies for the Double Bass*, ed. Ion Cheptea (Bucharest: privately printed, 1955).

Example 2 shows the revision of Prunner’s studies, in which the D-Major arpeggio has been expanded to a range of three octaves and string indications are added. All the expanded exercises are patterned after the fingerings and format that Prunner had used. The goal was to make the blending of the old and new editions of the studies as seamless as possible, ideally to seem to the user as if Prunner himself had been the editor.

D Major Arpeggios

The image shows a musical score for a D Major Arpeggio exercise. It consists of two staves. The first staff is in bass clef with a key signature of one sharp (F#) and a time signature of 9/8. It starts with a box labeled 'A' and contains a sequence of notes with various fingerings (0, 1, 0, 1, 4, 4, 4, 4, 2, 4, 4, 1, 4, 1, 1, 2, 1, 2, 1, 3, +, 1, 3, +, 1, 2, +, 1, 2, +, 1, 3) and string indications (D, E, A, E, A, E, A, D, A, D, A, D, G, D, G, G, D, G). The second staff is in treble clef with the same key signature and time signature, starting at measure 5. It contains a sequence of notes with fingerings (3, 1, +, 2, 1, +, 2, 1, +, 3, 1, +, 3, 1, 2, 1, 2, 1, 1, 1, 4, 1, 4, 4, 2, 4, 4, 4, 4, 1, 0, 1, 0) and string indications (G, D, G, D, G, D, A, D, A, D, A, E, A, E, A, E, D).

EXAMPLE 2: Revision, D-Major Arpeggio Exercise

The omission of the third octave in D and E-flat in Prunner’s original studies made the scale and arpeggio exercises seem incomplete. Admittedly, these scales do go into positions of the double bass that are usually reserved for virtuosic solo passages, but they are important for this very reason. For a performer to feel comfortable and relaxed playing very technically difficult passages, it is essential that they have an exercise or method system that extends to this range included in their practice routine. While E-flat major is a key that is rarely used in solo repertoire, especially in the minor form, practicing it will force

virtually every performer to confront uncomfortable positions and difficult intonation. Because the double bass has a D string, D major and D minor are keys that the double bass must perform in on a regular basis, and training in these keys is essential. Arpeggiations that proceed three octaves up the fingerboard are a regular assignment in the music of Bottesini, and much of the famed Dragonetti concerto for the double bass is based on the capabilities of the double bass in the upper positions of D major. With the expansion of all the scale and arpeggio systems to three octaves, the Prunner method is more complete, and done so in a way that complements the template he provided.

The arpeggio system in the original Prunner scale studies is, for the most part, presented in a very comprehensive and logical fashion. However, this is not the case for all the keys of the exercises, because in some, Prunner has omitted options for different routes and fingerings. As well, in the keys for which multiple examples of different routes are given for the same exercise, these examples are presented on the same staff, which can cause confusion.

For example, in Prunner's presentation of the C-major arpeggio, this exercise is offered with only one fingering (Example 3). Clearly, C major is a key that is employed on a regular basis by composers, and as such it should have several options given for the performance of arpeggios, which Prunner does offer in lesser-used keys. Multiple routes through the fingerboard for every exercise are

required; each situation in performance will be unique, requiring routes that will best match the tonal and rhythmic requirements.



EXAMPLE 3: Prunner's C-Major Arpeggio Exercise²⁴

Example 4 is an excerpt from the revision of Prunner's C-major arpeggio exercise. Each of the arpeggio exercises now offers multiple options for fingerings that include multiple routes through the fingerboard, with a full range of three octaves from the starting pitch, and all are individually presented on their own staff. With the extra options, the arpeggio exercises in the new edition now offer a more comprehensive set of fingerings and routes through the fingerboard.

²⁴ Ibid.

C Major Arpeggios

1. **A**

A D A D G D G D G D G

G D G D G D G D A D A

B

A D G D G D G D G

G D G D G D G D A

C

E A D A D G D G D G D G

G D G D G D G D A D A E

EXAMPLE 4: Revision, C-Major Arpeggio Exercise

One of the unique features of the Prunner scale studies is the inclusion of chromatic scales, which are left out of a large number of other scale and arpeggio books. Chromatic scales establish an aural and physical foundation for the half-step interval, and they are a challenge to perform with consistent intonation. As a result of the general awkwardness in the fingering of chromatic passages, if the

fingers of the left-hand are not trained to perform chromatically, there tends to be confusion in the fingers when it comes to performance.

In Prunner's original studies, the chromatic scales are offered starting on E through D-flat (in ascending order chromatically), D and E-flat being omitted from the studies. For the revision of the Prunner's studies, the chromatic scales have been expanded to include D and E-flat. The fingerings for these scales are based on the fingering patterns that Prunner presented in earlier examples. This expansion was critical to ensure that the double bassist had all the information needed in a comprehensive study of chromatic scales.

An excerpt from one of Prunner's chromatic scales is shown in Example 5. The chromatic scale exercises were originally presented on a grand staff, and as a consequence each exercise is five pages long. Because of this the performer is required to make several page turns throughout the exercise, which obviously disturbs its continuity. Undeniably page turns are going to be unavoidable, but if the same information can be conveyed with fewer page turns, there is an advantage to the user.

DO CHROMATIC



EXAMPLE 5: Prunner's C-Chromatic Scale Exercise²⁵

Example 6 shows an excerpt of the D chromatic scale exercise in the revision of Prunner's studies. Here the chromatic scales have been expanded in range, have string names provided, and are consolidated to four pages, with the page turns occurring at the octave, the most opportune point of the exercise. The performer can now play the entire exercise ascending without a page turn, and then play descending through the exercise without a page turn. The chromatic scales are notated on a single staff rather than the grand staff, with clef changes in the staff throughout the exercise. Through this process of consolidation, all of the original information that is presented by Prunner in his original studies was preserved, but now presented in a more concise manner, which should be easier for the users to employ in their practice routines.

²⁵ Ibid.

D Chromatic Scale

The image shows a musical exercise for a D Chromatic Scale in 4/4 time. It consists of two staves. The first staff is in bass clef and contains an ascending chromatic scale from D2 to D4. The notes are: D2 (0), E2 (1), F2 (1), G2 (2), A2 (4), B2 (0), C3 (1), D3 (1), E3 (2), F3 (4), G3 (1), A3 (2). Below the staff, a chord diagram for D major is shown: D (0) and G (0). The second staff is in treble clef and contains a descending chromatic scale from D4 to D2. The notes are: D4 (3), C#4 (3), C4 (2), B4 (1), Bb4 (3), Ab4 (2), G4 (1), F#4 (3), F4 (2), E4 (1), D4 (4), C#4 (2), C4 (1), B4 (4), Ab4 (2), G4 (1), F#4 (0), F4 (4), E4 (2), D4 (1), C#4 (0), C4 (0). Below the staff, a chord diagram for D major is shown: G (0) and D (0).

EXAMPLE 6: Revision of D-Chromatic Scale Exercise

An additional unique element of Prunner’s scale studies is the inclusion of what he calls “Fixed-Position Scales.” In these scales, as shown in Example 7, the fingering pattern and route through the fingerboard work in a horizontal, rather than the typical vertical, pathway that is presented in the previous exercises of the book. The exercises force the user to play only in thumb position, walking the fingers in a crab-like fashion horizontally across the fingerboard, which will train the hand to work more efficiently and securely throughout all parts of the thumb position.

GAMELE MAJORE ÎN POZITIE FIXĂ

×
SOL MAJOR



EXAMPLE 7: Prunner's Fixed-Position Scale Exercise²⁶

On the value of refining one's technique in the horizontal positions on the double bass, Gary Karr says, "...it is so important to be aware of the notes that are across on the other strings and not just play scales up and down."²⁷ This can be a very difficult and painful venture for the double bassist, because it requires pressing the very sensitive and unprotected thumb joint repeatedly into the fingerboard. But with regular tenacious practice, the hand will develop a callus on the thumb joint, and the pain of playing the exercise will subside, leaving the user with a priceless new skill that can be added to the performance repertoire.

In the original version of the Prunner scale system, the "Fixed-Position Scales" are presented solely as major scales in seven keys (presented

²⁶Ibid.

²⁷ Karr, "Schlock Buster," 981.

chromatically G through D-flat), and without arpeggio exercises to accompany them. In the revision, the “Fixed-Position Scales” have been expanded to twelve keys, are now being presented in harmonic and melodic minor, as well as major, and also include a full set of arpeggio exercises that complement each exercise, all carefully constructed following Prunner’s previous examples as the template.

A comprehensive scale study should offer bowing patterns to complement the scale and arpeggio exercises, because scales and arpeggios are one of the best vehicles available for the perfection of difficult bowing patterns. Prunner recognized that these patterns should be modeled on those found in the performance repertoire and included a series of bowing patterns in his original scale studies. Unfortunately, however, the different bowing patterns for the scales were specified only for the chromatic and major scales, were difficult to locate, and needed more options. In the revision, the number of options for different bowing patterns has been expanded for the chromatic, major, and minor scales, and there are now bowing patterns offered for the arpeggio exercises as well. Furthermore, the pages of bowing patterns are placed in more prominent locations throughout the book. In the original publication of Prunner’s studies there are 26 separate bowing permutations offered for the chromatic exercises, but as shown in Example 8, only 14 for the major and minor scales and none offered for the arpeggios. While it would be impossible to offer every single different

permutation of the bowing patterns for the scale and arpeggio exercises, this was an area that was in need of expansion.



EXAMPLE 8: Prunner's Major Scale Bowing Patterns²⁸

The revision of Prunner's studies now offers 32 different bowing permutations that can be employed in conjunction with the major and minor scales and the arpeggio exercises, with an additional 26 for the chromatic scales. In an effort to make the bowing examples easier to use, they have all been assigned numbers for reference. The bowing patterns are grouped in a more logical fashion, and the bowing pages are now prominently located in front of their respective sections.

The final motivation for the revision of Prunner's studies was to incorporate concepts from Carl Flesch's famous scale and arpeggio study for violin. The most significant of the alterations of Prunner's original study result from this addition. An excerpt from Flesch's study is shown in Example 9, which

²⁸ Prunner, *Progressive Studies for the Double Bass*.

illustrates that the exercises are very similar to Prunner's. Flesch, like Prunner, bases his scale exercises on working through all the modes of the scale that is being practiced, but also incorporates the thirds, sixths, and octaves played as double-stops through the scale pattern as additional exercises for each scale. With the two studies being so closely related in concept, it seemed a natural fit to apply the model that Flesch provided for double-stops study for the violin to the double bass.



EXAMPLE 9: Flesch's D-Minor Double-Stops Exercise²⁹

Others have included double-stops practice in their double bass studies, and there is an edition of the Flesch scale system that German double bassist Gerd Reinke adapted for the instrument. In his edition Reinke has purposely omitted fingerings from most of the exercises, saying in the introduction: 'I intentionally kept the fingerings to a minimum, in order to encourage the student's

²⁹ Carl Flesch, *Scale System: Scale Exercises in All Major and Minor Keys for Daily Study* (New York: Carl Fisher, Inc., 1926), 17.

independence in choosing his own fingerings.”³⁰ While in concept it might seem like a good idea for a student to attempt to master double-stops without the aid of fingerings, in practice this adds a lot of unneeded confusion. It is too much to ask of a student to fully comprehend and apply the different fingering permutations for double-stops without help. Students must be guided carefully by their teacher through the process of learning double-stops to have any solid chance of successfully using the tools that double-stops practice can provide.

Other studies that include double-stop practice as part of the exercises have problems similar to those found in the Reinke edition. Generally, these other exercises present a very limited range of double-stops in scales and rarely include octaves. And of course there must be proper guidance for the student through the labyrinth of fingering possibilities.

The double-stops exercises from Flesch’s violin study had to be modified to be made practical for the double bass. Example 10 shows an excerpt of one exercise, this one for D minor, with double-stops in thirds. The diatonic thirds and fifths exercises are then followed respectively by exercises in which the scales are performed with leaps of thirds and fifths. The fingerings indicated are based on the fingering model provided by Prunner, with some modifications. The compulsory fingering for the octave double-stops exercises is thumb and third finger, as this is the only fingering combination that is possible for most

³⁰ Gerd Reinke, *Carl Flesch Scale System arranged for Double Bass* (New York: Carl Fischer, 1994), 3.

performers. The range of these exercises was determined by practicality on the double bass and the probability of performance. The thirds exercises are performed from the lowest hand position of the respective scale, continuing for three octaves, with the fifths exercise following suit with a range of two octaves. The octave double-stops exercises start in the most practical range for performance and encompass a range of an octave and a fifth. While the other double-stops exercises have a respective non-diatonic exercise (thirds in thirds, fifths in fifths), which follows the scale, this is an impractical permutation for the octave exercise, and it has not been included.

EXAMPLE 10: Revision, D-Minor Double-Stops

The benefits of double-stops practice are multifaceted. The challenges created when one is required to perform two pitches simultaneously, both technically and aurally, require double bassists to work at the pinnacle of their capabilities. In her article on the value of double-stop practice for string players, string teacher Laura Reed observes:

Although successions of octaves, fifths, and thirds may cause consternation, students at all levels can be taught to play them with good tone and intonation, paving the way to the performance of rich and varied repertoire. As with any skill, teachers can help their students to break down learning into a series of small, achievable goals in a logical sequence.³¹

To efficiently push down the strings on the double bass, the transfer of strength and weight from the fingers must be done in a precise manner. Not done properly, the resulting tone will be unsatisfactory, and the performer will frequently tire and have cramps in the left-hand. For the most efficient transfer of energy and weight from the fingers, and to ensure that the fingertips are contacting the strings, the knuckles must be uniformly curved, resulting in a continuous arch starting from the shoulder, through the arm, through the hand, and concluding where the fingertips contact the strings. While this curvature is critical in single-pitch performance, in double-stops performance it becomes hypercritical as there can be no extraneous contact from the fingers with any of the strings.

Through the utilization of double-stops exercises as part of a practice regimen, the fingers will be strengthened to a far greater degree than in a practice regimen without them. Simultaneously, as the left-hand develops strength and confidence through this regimen, muscle memory is being reinforced as each position must be established and maintained for satisfactory intonation, reinforcing the physical proximity of pitches. Because the intervals chosen for double-stops exercises (thirds, fifths, and octaves) are all intervals that are also

³¹ Laura Reed, "Seeing double," *The Strad*, Vol. 113 Issue 1349 (September 2002) : 978.

frequently found in succession, the benefits of the hand positions being trained are multifaceted. While establishing the hand positions required for double-stops, these exercises as well train the optimum positioning of the hand and fingers to ensure the precise tuning of the interval either as a double-stop, or as two separate pitches.

CHAPTER 4

SUGGESTIONS FOR USE OF THE REVISION

While scale and arpeggio practice can be the most valuable time musicians spend developing their talents, it can also be a colossal waste of time if not done properly. It is necessary for students to learn how to practice properly and utilize their practice time to the fullest extent. In situations where students are left to their own devices, generally time will be wasted and possibly damage done if they are not properly guided through the proper procedures for practicing scales and arpeggios. Lacking guidance, students will have a great deal of difficulty fully exploiting all the tools that scale and arpeggio study has to offer. It is the duty of the teacher to provide for their students a logical and efficient way to practice.

To ensure proper development of intonation and technique there are some easily attainable tools that will help, in conjunction with the exercises in the study. The chromatic tuner is an invaluable device that every musician should personally own. There was a time when this was a luxury item that few could afford to purchase, but now a chromatic tuner, which is able to discern the lowest frequencies of the double bass, is available for twenty dollars. When practicing with a chromatic tuner, one can literally see the tendencies in the intonation in the needle, and then hear any corrections that are made. Through the process of continuously practicing the exercises with a tuner, the sound of the scale or

arpeggio with the correct intonation becomes imprinted into the performer's brain, an integral step in the development of consistent intonation for any musician.

Another function available on most chromatic tuners is the drone. The drone can be a very important tool in the development of consistent intonation and confidence in one's ability to hear intervals. The tuner should be set on the tonic of the scale or arpeggio that is being practiced to offer a reference point for intonation throughout the exercise. Using this tool, one is able to fine-tune for each interval. Whether the chromatic tuner is used visually or aurally, the important factor is that the user has a reference point for intonation throughout the entire exercise.

The next tool required for a proper practice session is a mirror large enough for double bassists to see themselves from the knees to the top of the head. When a mirror of these dimensions is not available, a large picture window at night will also offer a reflection that would be acceptable. The purpose of the mirror is to ensure proper posture and technique. The angles of the bow in relation to the string and bridge can be examined, proper posture can be maintained, and the actions and positions of the left-hand inspected. If one attempts to watch themselves perform without the use of a mirror, they will have automatically removed their body from the proper posture.

The last and perhaps the most important tool that is required for a proper practice session is the metronome. Most students think of their metronome as the

enemy rather than the friend. This adversarial relationship is one that is developed from their improper use of the metronome, which because of frustration will generally lead them to stop using the metronome altogether. The biggest mistake that musicians make is to use the metronome to force themselves to play faster, rather than the proper use, to slow down their practice. While the tempo of a metronome must be increased, it should never be at a rate that creates tension in the performance. Jazz pianist Kenny Werner remarked on the topic: “If, in trying to move faster, you learn on mediocre levels, what can you expect? Mediocrity of course.”³²

The only way that one can perform at a fast tempo in a controlled fashion is by staying completely relaxed, and this feeling must be learned in the practice room. Once this feeling is found it must be reinforced by slowing down the metronome again every day when revisiting the material. This process will in the long term allow for an organic progression of tempo to occur. If one is always able to perform faster than what the metronome is dictating they will always know relaxation as the rule for performance.

With the high degree of difficulty of the various technical and aural challenges involved in practicing scale and arpeggio exercises, complete concentration and unmitigated focus are a requirement. Because one’s surroundings have a significant impact on the ability to concentrate, the

³² Kenny Werner, *Effortless Mastery* (New Albany: Jamey Aebersold Jazz, Inc., 1996) , 117.

environment in which one practices is of paramount importance. For optimum concentration and focus, one's practice room should be comfortable, quiet, and distraction-free. The room itself should be of ample space for full bow strokes, and also be acoustically true. In order for the double bassist to hear properly and to get a true sense of tone production, the room should be as quiet as possible.

One of the greatest challenges in having a successful practice session is maintaining concentration. One can help by either turning off or removing any clock, phone, computer, or television from the room, and cover any windows to minimize visual distractions. Try to make the practice session as "timeless" as possible. Removing the clock and covering up the windows are the best first steps in making this possible, but because time can be discerned from a variety of sources (a TV in the background, music outside the room, light changes, etc.) it can be very difficult to remove all measures of time from your environment. The idea is total immersion into the practice session. It is imperative that one is able to completely focus on the progress being made, not on the amount of time practiced. When there is a clock readily available, the focus tends to be on the amount of time practiced rather than the attainment of goals. When working in a "timeless" environment, one is able to truly get lost in the task and the best work is done.

The amount of time that one should devote to these exercises is difficult to quantify. To put an exact number of hours per day or per week that will be

required before one feels control over an exercise is impossible because everyone learns at a different rate. The best estimation of the amount of time that should be dedicated to scale and arpeggio study is approximately 25% of the total practice time.

The time dedicated to these exercises needs to be thought of not only in the aggregate number of hours practiced, but also in the regularity of practice time. For the maximum benefit it must be done daily. The person who practices one hour of scales and arpeggios exercises every day will progress at a far more rapid pace than will the person who practices seven hours of scales and arpeggios once a week. To fully internalize the fingering patterns, and to ensure the proper development of muscle memory, it is imperative that the neurological system is trained daily. In his *Principles of Violin Playing & Teaching*, Ivan Galamian relates the significance of the mental connection to the physical movement:

I would like to point to the one-sided overemphasis on the purely physical and mechanical aspects of violin technique, the ignoring of the fact that what is paramount in importance is not the physical movements as such but the *mental control over them*. The key to facility and accuracy and, ultimately, to complete mastery of violin technique is to be found in the *relationship of mind to muscles*, that is, in the ability to make the sequence of mental command and physical response as quick and as precise as possible.³³

The primary areas of focus when practicing the scale and arpeggio system presented here need to be intonation, technique, and tone quality, not fast tempos. Increases of tempo in the exercises will come from the confidence instilled by total

³³ Ivan Galamian, *Principles of Violin Playing and Teaching*, 2.

control of intonation, technique, and tone. This will never happen in reverse order. In his book *Effortless Mastery*, pianist Kenny Werner discusses how to perform at fast tempos without tension:

The answer can be found by looking at martial arts. Those disciplines require great concentration rather than strength. To focus the body's energy into one act, there is no *extraneous tension*. That is the key. Most musicians play while holding tension in parts of their bodies that don't need to be tense.³⁴

For the person who is first beginning to use Prunner's revised studies, it is best to follow the natural progression of the book as it cycles through the circle of fourths. In this progression, the major scales and arpeggios in their non-fixed position form should be the first exercises to be studied. The aural and technical aspects of these exercises are more easily attained than if one were to start with the minor scales and arpeggios. After all of the non-fixed position major scales have been studied, then non-fixed position minor scales and arpeggios should follow. The complementary chromatic scale exercises should be studied simultaneously with both the major and minor scales and arpeggios, as these will reinforce the half-step relationship throughout the gamut.

After all of the major and minor scales and arpeggios have been studied in their non-fixed position form, the major scales and arpeggios in fixed-position should be the first exercises studied, followed then by the minor scale forms. After the entire book has been studied, the user should go back through all of the

³⁴ Kenny Werner, *Effortless Mastery*, 109-110.

exercises, identifying and correcting the flaws of the execution, weighing the approach toward the particular keys that are the weakest, and focusing on the keys that the solo or orchestral repertoire requires.

As each exercise is started, the primary focus should be on intonation, technique, and tone production. Once there has been consistent mastery of these areas, only then should the user proceed on to the double-stops exercises. The exercises should be practiced slowly and with a full legato bow stroke. Before the repetition of each exercise, the user should pause to consciously think about what needs to be the primary areas of focus for the next repetition, allowing the body to return to a state of relaxation before proceeding. As one of his “Hints on Practising,” Yehudi Menuhin suggests: “Between every effort in your playing and during every pause, deliberately return to a state of relaxation and softness in all your joints. In time this will permeate even the act of performance itself.”³⁵ By following this procedure, after many repetitions, a comfort level should be established that would permit the introduction of the metronome.

One of the main virtues of Prunner’s revised scale and arpeggio studies is to push the limits of comfort for the user, but this can only be fully realized through slow, steady progression. For example, the same key should be repeated at the beginning of every practice session for at least several days. For some people this will not be enough time, and they might feel compelled to stay on the

³⁵ Yehudi Menuhin, *Six Lessons with Yehudi Menuhin*, 139.

same exercise for much longer. This period of time will vary for every exercise, and for every performer, based on the difficulty of the exercise and the strengths and weaknesses of that person. Before one should consider moving on to the next key in the book, the attainment of comfort and relaxation at all tempos is mandatory. The most will be gained from a slow, methodical, and steady progression through the exercises offered. One must be patient and try never to feel rushed through the natural progression of technique. Kenny Werner reflects on the legendary pianist Bill Evans and his ability to have total control over his tone production:

I believe there are basically two reasons for Bill's perfect sound under all circumstances. He had perfectly weighted arms with wrists like shock absorbers, so that he could always achieve force without banging; and because of the deep and thorough process by which he absorbed his material, *his hands always knew perfectly well where they were going*. With calm certainty, they would perform what they had been programmed to perform. In this way, his hands didn't need to *lunge* for the notes; they were always right there.³⁶

The level of control that Bill Evans exhibited on the piano is possible on any instrument. The key is to give the body and mind the proper time to develop the skills necessary to deliver a flawless, relaxed performance.

The bowing patterns offered to complement the scale and arpeggio exercises are invaluable in the development of proper left and right hand technique on the double bass. They are designed to develop proper tone production and coordination of the hands, and to offer new bowing possibilities for orchestral and

³⁶ Kenny Werner, *Effortless Mastery*, 109.

solo works. Because the difficulty of the patterns increases greatly throughout the examples, it is best to start with the easiest bowings and to proceed through the different patterns only after control is secure. Because the bowing examples are based on bowings and rhythms found in orchestral and solo works, the double bassist might use them to work on a particular bowing difficulty in a practical performance setting. In that case one could skip past several different bowing patterns to arrive at the particular pattern most complementary to the excerpt being practiced.

The *Progressive Studies for the Double Bass* first presented by Joseph Prunner in 1955 was a major innovation of scale and arpeggio studies for the double bass. Through the expansion of range and the addition of double-stops and minor fixed-position scales in the completed revision, Prunner's achievement has been modernized for the 21st century double bassist. The resulting exercises are the best mixture of pedagogical concepts from each era. By following and implementing the exercises within, double bassists will have the ability to hone all aspects of their technique simultaneously through a comprehensive study of the vocabulary of music.

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