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#### Abstract

A violinist must decide what fingerings to use for any given musical passage within the repertoire. Choosing a fingering can often be a confusing process for any violinist whether he/she is a student or a working professional.

Carl Flesch and Ivan Galamian were two of the most celebrated violin pedagogues of the twentieth century. This study compares fingerings of excerpts that have been edited by both pedagogues. Conclusions have been reached regarding these fingerings, and an appendix provides an abbreviated summary of fingering guidelines that follow the practices of each pedagogue. The violinist may use these guidelines to decide a fingering for any given passage of music.


## CHAPTER ONE

## INTRODUCTION

The act of editing any specific musical work is a long standing musical tradition in performance. In any major violin concerto, there are several editions containing different fingering and bowing suggestions. Many of those bowing and fingerings are not the same because of a subjective desire to hear the music performed a certain way. Therefore, a violinist must choose particular bowings and fingerings in any work that he/she desires to perform. The violinist must have a base of knowledge to make the necessary decisions. This study focuses on fingering choices available for such works.

## NEED FOR STUDY

As the major violin schools became established, different fingerings were selected resulting in contrasting sound concepts; therefore, performers from different schools of playing edited works differently. As a result, different editions of violin music contain different fingers for any given musical passage. Presently, some violin teachers favor editions of etudes published by Schirmer while others ask students to use editions published by the International Music Company. It may be difficult for a violin student to understand why their teacher asks for specific editions. The answer to this question is the teacher found certain fingerings in some editions to be are more favorable in application and overall sound concept than those found in other editions. It is this author's teaching philosophy that "good" fingerings are one of the more important aspects of performance that can be provided for his/her students.

It is often difficult for many young violinists to choose their own fingerings since a list of general guidelines cannot be found easily. As a result of teachers not being able to find any such resource, fingerings differ, and a student who has fingerings changed can often be puzzled and left to question which fingering system or decision is more favorable.

The teacher, as well as the student, needs to be able decisively to answer the question, "Why is this fingering favorable for the execution of this particular work?" A priority should be to state the reasons, and pass the answers on to the student. That method should allow the student to rely on his/her own knowledge to supply the fingerings that are the most favorable to the music under consideration. The student will then have confidence in his/her actions, and this confidence is immediately perceived in performance.

## PURPOSE OF STUDY

The purpose of this study is to provide two concise lists of guidelines for fingering, one after the treatise and editions of Carl Flesch and the other after the treatise and fingerings of Ivan Galamian. Using this list, a violinist can choose a set of fingerings based on his/her own knowledge rather than rely upon other perhaps confusing and conflicting sources. The violinist can use this data to assess given fingerings or to provide a set of new fingerings based on the guidelines. Violin teachers at various levels are the primary target audience for this study.

While researching this topic, such a concise list of guidelines for favorable fingerings has not been found. One of the more comprehensive volumes found was Violin Fingering: It's Theory and Practice by Carl Flesch. However, after studying the examples and explanations given by Flesch, one finds information that conflicts with the editions of other pedagogues or performers. Both teacher and student must be able to provide answers as to what makes a good fingering when playing any musical passage on the violin. It is the purpose of this study to help achieve that result.

## PROCEDURE

A procedure for producing a list of guidelines for fingerings can utilize one of two processes. The first process would be to present the guidelines and use musical examples that support them. The treatises of Flesch and Yampolsky are examples of this process. A concern with this approach is that a subjective argument can be made supporting most of the fingerings.

The second approach, used in this study, is to begin not with the set of seemingly arbitrary guidelines but with the musical examples that have been fingered by two pedagogues. These will be used then to produce two lists of guidelines. The resulting lists will use applied examples rather than be drawn from the opinion of a particular writer. Examples will be chosen from Carl Flesch's Violin Fingering that have also been fingered by Ivan Galamian. The current study will attempt to explain why each pedagogue chose his fingering for each given passage by considering: 1)Flesch's explanation provided throughout his work; 2)The editions by Ivan Galamian of those
same passages within the work as a whole; and 3)The discussion of violin fingering by Ivan Galamian in his book Principles of Violin Playing and Teaching. After this sampling and explanation of the chosen fingerings within the examples, conclusions will be reached by comparing and contrasting the fingerings of Flesch and Galamian. Finally, a chart will be presented with guidelines that have been established based on each pedagogue's fingerings.

## LIMITATIONS

It should be noted that this study has limitations. Only two pedagogues' works are being compared. There are many different editions of various works from the violin repertoire, especially of etudes, the works for solo violin by J. S. Bach, and the Paganini caprices. There are other books that are not discussed such as the works of Simon Fischer. This study is limited to the two authors for the following reasons: 1) These are perhaps the two most celebrated and cited pedagogues in the history of the violin. Their contributions to the violin literature, repertoire, and violin performance are great. Each has published also an advanced and widely used scale system ${ }^{1}$, and together these systems provide the foundation and fundamentals studied by the vast majority of violinists.

[^0]It may be said that there are two classifications of violin fingerings. There are those that are not necessarily based on a personal sound concept. The guidelines that are found within this study focus largely on this type of fingering. However, there are passages in violin works will have more than one favorable fingering. This occurrence cannot be eliminated, and then the violinist must make a decision based on personal desire. This study does not focus on this classification of fingering.

Only selected examples that have been edited by both pedagogues have been used, and other examples have been omitted. Further, examples that will always exist that provide exceptions to the list of guidelines. While this study is as objective as possible, these exceptions have been omitted if they contradict a majority of examples by the same pedagogue or if a conclusion was not able to be reached by this author. In this way, more simplicity can be maintained, and the desired objectivity is possible.

## CHAPTER TWO

## A REVIEW OF RELATED LITERATURE

The three works surveyed below are somewhat substantial regarding violin fingering but are excluded from this study.

## Principles of Violin Fingering by Abram Yampolsky

Abram Yampolsky taught at the Moscow conservatory and held the reputation along with David Oistrakh as one of the more prominent Russian pedagogues of his time. Leonid Kogan and Julian Sitkovetsky were among the successful soloists who came from of his studio. In 1967, Oxford University Press published a translation of Yampolsky's treatise The Principles of Violin Fingering.

The introduction is a concise history of violin fingering according to Yampolsky beginning with the sixteenth century. The left hand supported the instrument and therefore could not move much during this time because no chinrest was attached to the violin. As a result, playing was confined to the first position on the upper three strings, and the G string was used little. When the chinrest made it possible to support the instrument with the head, it was placed to the right of the tailpiece rather than the now typical position to the left of the tailpiece. The result was that the instrument was parallel to the floor, and it was still quite difficult to play on the $G$ string. ${ }^{2}$ It was not until the nineteenth century that violinists began to hold the instrument to the left of the tailpiece, resulting in greater ease of playing both in higher positions and on the $G$

[^1]string. ${ }^{3}$ Some of the earliest known examples of violin fingerings can be found in the violin tablature of the Galliards from the early seventeenth century. An example of this early music is given showing an indication of a fourth finger while descending and an open string while ascending. This is perhaps one of the earliest rules for fingerings, a practice that can now be perceived as a mainstream guideline. ${ }^{4}$ In 1738, Corrette published his L'ecole d'orfee, in which he divided the violin's fingerboard into seven positions. This is the same division that is still often taught to violin students in modern times. ${ }^{5}$ The Italian violinists Locatelli and Geminiani took the next evolutionary step in violin fingering by employing extensions and contractions of the fingers to reach notes. In addition, Locatelli used open strings to change the left hand position. Geminiani continued to advance the movement of fingering guidelines by introducing the concept of consecutive fingering for chromatic passages rather than sliding fingers between semitones. ${ }^{6}$ He advocated also not lifting fingers until it was necessary to use them for a different note. ${ }^{7}$ Yampolsky cited Geminiani's treatise in which he stated, "It is a constant rule to keep fingers as firm as possible, and not to raise them until there is a necessity of doing it, to place them somewhere else." ${ }^{8}$ Leopold Mozart's treatise on
${ }^{3}$ Ibid., 2.
${ }^{4}$ Ibid., 3.
${ }^{5}$ Ibid.
${ }^{6}$ Ibid., 4.
${ }^{7}$ Ibid, 5.
${ }^{8}$ Ibid, 5, quoting Lionel de Laurencie, L'ecole francaise de Violin de Lully a Viotti (Paris 1924), 17.
violin playing was the most comprehensive of its time. Mozart indicated three reasons for changing position.

Necessity, convenience, elegance. Necessity manifests itself when several lines are drawn over the usual five lines. Convenience requires the use of the fingerings in the certain passages where the notes are set so far apart that they cannot be played otherwise without difficulty. And finally fingerings are used for the sake of elegance when notes which are Cantabile occur closely together and can be played easily on one string. Not only is equality of tone obtained thereby, but also a more consistent and singing style of delivery. ${ }^{9}$

Mozart designated the odd positions as whole positions and the even positions as half positions. ${ }^{10} \mathrm{He}$ is perhaps responsible for the even positions having an unnecessarily subservient role. The more important contributions to violin fingering by Mozart to violin fingering are his three general guidelines-the use of an open string to shift, the change of fingering when a note is repeated, and the advocacy of fourth finger extensions. Mozart favored shifting while playing an open string so that the shift would not be heard. "If, however, one is no longer constrained to remain in the position, one must not instantly run headlong down but await a good and easy opportunity to descend in such a fashion that the listener does not perceive the change."11 He was also perhaps the first to state that the performer should stay on one string if possible for

[^2]unified timbre throughout the phrase. This is the reason that one should use a fourth finger extension to play $f^{2}$ to keep the following phrase on one string. ${ }^{12}$

Example 1: Leopold Mozart's example of keeping the melody on one string.

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In 1761 L'Abbe published his method, Les Principes du violin. It was the first known source to discuss the half position. Coupled with this concept was L'Abbe's discussion of diminished fifths, in which he stated that diminished fifths should be played not with the same finger, but with adjacent fingers. ${ }^{13}$ Ivan Khandoshkin was one of the first to use this technique of playing entirely on one string. He believed that the maximum changes of position produced a more technically and expressively polished result. V. P. Gutor, a Russian critic, stated that this idea was the "basic principle of the most advanced instrumental virtuosity." ${ }^{14}$ Paganini advanced previous developments in fingering by essentially eliminating entirely the concept of positions. His revolutionary method was highly personal. It did not resemble the French school's idea of having the left hand in a position. He introduced the technique of playing fast scales with one finger using a

[^3]glissando technique. ${ }^{15}$ However, this technique was not reserved for fast passage work alone; Paganini would also play cantilena melodies using one finger as well. ${ }^{16}$ During the nineteenth century, editions of the major works were published. They were edited by the foremost performers of the time including Joseph Joachim and Ferdinand David. In his edition to Paganini's first concerto, Wilhelmj, another well recognized performer, included his cadenza with the first appearance of fingered octaves. ${ }^{17}$

Charles-Auguste de Beriot discovered an important divide between expressive fingering and fingering for technique alone. ${ }^{18}$ This distinction allowed for objectivity in deciding fingerings for technical purposes. The Russian critic M. P. Rezvoi refined this concept by remarking that "correct" fingering fulfills two criteria-certainty and a minimum of difficulty. ${ }^{19}$

The next important contributions were by Carl Flesch, although he was apparently prone to "over-refinement." Flesch's "tendency to excessive detail" led to a fragmented view of the work as a whole. ${ }^{20}$ This is the end of Yampolsky's brief history of fingering because he and Flesch were contemporaries, and furthermore both pedagogues' treatises on fingering were published during the same decade.

[^4]Yampolsky began his analysis of fingering technique by addressing the difficulties that often obstruct the formation of objective guidelines. First, the various violin schools have different sound concepts, thus creating inherent differences of opinion regarding the desired sound of any given musical passage. Second, individual interpretation increases the subjectivity of fingerings. By example, Yampolsky offers Kreisler as an example, noting that his unique style results partly from his fingering selection. Last, the anatomy of the performer may have an impact on fingering. For example, a violinist with small hands may have trouble performing fingered octaves. ${ }^{21}$ Yampolsky provided three factors that influence what he termed rational fingeringsthe nature of the instrument, the natural position of the fingers on the fingerboard, and the texture of the composition. ${ }^{22}$ He listed also three immediately irrational fingering techniques-using the same finger in succession for more than one note, crossing the string to use it again immediately, and moving fingers simultaneously in opposite directions. ${ }^{23}$ The examples below demonstrate clearly the last two of these circumstances.

[^5]Example 2: Yampolsky’s demonstration of crossing the first finger to use it again immediately on the A string.

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Example 3: Yampolsky's demonstration of having fingers move in the opposite direction during the execution of chords. Notice that in both examples the lower notes and upper notes are moving in a contrary fashion.

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Yampolsky devotes quite a few pages explaining the position of the left hand on the fingerboard. He proposed that the most natural position was with the semitone between the second and third fingers. He also explains contracted and extended positions in detail. ${ }^{24}$

[^6]He described what he believed as the inherent qualities of each string on the violin. While the E string and $G$ String are both virtuosic and brilliant in character, the A string and D string are "rather dull", especially in the upper registers. Therefore they produce specific sounds that are appropriate for the gentle playing of cantilena passages. The E and G strings are reserved for passages that require a stronger, more brilliant tone quality. ${ }^{25}$

Yampolsky stated an important guideline, that a rational fingering is one that requires the least amount of movement of the hand while remaining comfortable. ${ }^{26}$ Flesch stated this outright as well. It appears that Galamian believed it as well. This conclusion was reached after examining many of his editions of concerti and etudes.

Yampolsky discussed the tools used to create the inaudible shift. These tools are the half step shift, a change of position on repeated notes, changing positions while playing open strings, a change of position while playing harmonics, and the creeping fingering technique. He explained each in detail. The creeping fingering is a technique employed both by Flesch and Galamian as well and will be explained in further detail in this study. ${ }^{27}$

Yampolsky continued his fingering discussion by addressing specific fingering issues. He described the even numbered positions and the half position as indispensable, and he favored consecutive fingering rather than using the same finger

[^7]for two consecutive notes for chromatic passages. ${ }^{28}$ He provided extensive guidelines for playing different kinds of broken thirds based on which note is on the strong beat. ${ }^{29}$ In his discussion of seventh chords, Yampolsky abided by his overall rule of avoiding oblique finger crossings. ${ }^{30}$

Example 4: By using fourth finger for $\mathrm{c} \mathrm{\#}^{1}$, the third finger can avoid an oblique finger crossing, which would occur if the same finger were used immediately on a different string a semitone from its original position.

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While discussing thirds, Yampolsky favored using an open string with the fourth finger on the lower string playing the upper note, for example playing the notes $a^{1}$ and $c^{2}$ with the open A string and the fourth finger on the D string. ${ }^{31}$ This particular issue is one in which Flesch and Galamian disagreed due to their apparent sound concepts. It will be a topic of discussion in this study. Yampolsky again abided by his guideline of avoiding oblique finger crossings when playing consecutive sixths as well. ${ }^{32}$ Yampolsky addressed

[^8]the two fingerings for octaves and gave examples of fingered octaves in fast passages and standard octaves in cantilena passages. ${ }^{33}$ Regarding the mixture of double stops, the Yampolsky treatise states a general guideline of avoiding when possible crossing a finger from one string to another to finger notes that occur within a brief amount of time. ${ }^{34}$ This conforms with the general guideline of avoiding oblique finger crossings. His treatise breaks down chords into different types, principally those that share notes and those that do not. Again, he applied the above guideline of avoiding the crossing of the finger when possible to play the next chord. ${ }^{35}$ His next chapter incorporates bowings as well and how they have a direct impact on choosing the best fingering for the circumstances. Three bowing guidelines impact fingering. They are: avoiding crossing the bow over two strings, keeping the melody to one string when possible, and insuring that bowings and position change should often occur simultaneously. ${ }^{36}$ In addition, Yampolsky favored changing strings on strong beats so that the timbre change does not distract from the melody. ${ }^{37}$ He addressed recurring finger patterns, noting that they should be used whenever possible to aid in even timbre and in memory. ${ }^{38}$ The chapter that follows this is a full discussion of harmonics, both natural and artificial. It contains a full description of the circumstances in which their use is musically

[^9]appropriate. ${ }^{39}$ He distinguished between a glissando as a technical tool, and a portamento as an expressive tool, and provided musical circumstances in which the portamento is appropriate. ${ }^{40}$ His last chapter states guidelines concerning tone quality in cantilena passages. These guidelines are: 1) The choice of string depends on the character of the musical passage, 2) Uniformity of timbre is a priority, 3) Avoidance of unnecessary portamenti is essential, 4) The idea that a repeated musical phrase should have a different tonal character and therefore a different fingering from its initial appearance, 5) The necessity of a change of fingering on repeated notes, 6) The limited use of the fourth finger because of the lack of expressive tone, and that 7) Harmonics should be used only when they enhance a musical character. ${ }^{41}$

Yampolsky's text can be judged as thorough. However, it is not compared to the fingering systems of Flesch and Galamian in this study for several reasons. The process within Yampolsky's text follows a format similar to Flesch's. They present the guidelines and show selected evidence to strengthen the argument. However, Yampolsky often provides only a handful of uncited examples to strongly support his statements. Flesch's treatise is more comprehensive, with over seventeen hundred examples. Many more fingering problems are posed for which Flesch provides what can be considered possible solutions. Furthermore, to be able to examine editions, those editions must be readily available, and many of Yampolsky's are not. Though he produced this treatise, editions

[^10]with his markings are not easily attainable. As a result, the same process used for works edited by Galamian and Flesch cannot be applied to those of Yampolsky.

## Ricci on Glissando by Ruggiero Ricci

In 2007, Indiana University Press published Ricci on Glissando by Ruggiero Ricci. Ricci was an active performer for decades, and among his specialities was virtuoso technique such as that used to perform the works of Niccolo Paganini.

He begins his text by discussing a comparison between what he refers to as the old and new systems of playing. Ricci's premise is based on the change in left hand technique caused by the addition of the chinrest to the violin. Ricci proposes that before the chinrest, the violinist was forced to hold the instrument principally with the left hand rather than with the chin and shoulder as is now common. If this were true, the violinist was forced to hold the instrument where the neck meets the body of the instrument. ${ }^{42}$ He proposes that this hold on the violin had to be maintained at all times to prevent dropping the instrument, and therefore the hand would not have been free to shift from one position to another as we do today. ${ }^{43}$ This fundamental difference of the left hand being kept at in a fixed place on the instrument is the premise of Ricci's discussion of glissando technique, which he deduces was the key to Paganini's technical ease on the violin.

[^11]Ricci has compiled a quite compelling argument in favor of utilizing his termed glissando technique. It includes references to Paganini's ease of playing, a description of the visual image of Paganini playing and how the glissando technique explains this image. It includes fingering decisions based on the necessity of supporting the violin with the hand, and perhaps most important the advantages this system may have had in in developing a highly trained musical ear. ${ }^{44}$

Ricci continues to discuss glissando technique in detail in his second chapter. He explains the system by outlining a regimen the violinist can use to begin to understand the glissando technique. This regimen begins with playing diatonic scales on one string with one finger while also holding the open string directly beneath the string that is being used for the scale. ${ }^{45}$ Ricci proceeds then to chromatic scales with the open string drone, followed by the playing of scales in fifths using one finger. ${ }^{46}$ Ricci provides the example shown below of a b-flat major scale performed with the first finger while always playing the note a perfect fifth above each scale note with that same finger. ${ }^{47}$

[^12]Example 5: Playing a scale in Fifths using only one finger. This general concept, being able to slide from one note to another using one finger while keeping the left hand in place where the neck meets the body of the violin, is the basis of Ricci's argument.

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He then applies the same concept to chromatic scales. ${ }^{48}$ After scales in fifths, Ricci proceeds to scales in fourths, sixths, thirds, octaves, and tenths. Each time, the scale is played by one finger on one string, thus producing a glissando between each note of the scale.

Ricci on Glissando is not used in this study for several reasons. This study is concerned with comparing and contrasting editions of two renowned pedagogues and further is designed to produce a guide that can assist violinists in choosing an appropriate fingering for a given passage of music. Although Ricci has attempted to explain the technique of which he is obviously an ardent proponent, the glissando technique strays from the fundamental ideas commonly taught to violin students.

[^13]Ricci's principles are useful only after learning the fundamental left- hand violin technique based on shifting. Its strongest asset is the glissando system's potential for teaching the student excellent intonation, judged not largely by the position of the left hand but by the ear. Ricci's glissando technique can add a valuable tool to augment a stable technique based on shifting, but the student needs to begin with a system that has a more common usage. The glissando technique produces its own unique fingerings based only on that particular technique. It cannot be compared to fingering systems based on shifting.

Szigeti on the Violin by Joseph Szigeti

Joseph Szigeti, a Hungarian violinist who was a friend of Bela Bartok's, was one of the more notable touring soloists in the first half of the twentieth century. Not only did he perform the great works for violin of the past, but he premiered many works of his contemporaries that were dedicated to him.

His autobiography, Szigeti on the Violin, was published in 1969. Part One reflects on various aspects of his life-performing in general, the state of classical music in society, and the questionable validity and success of western music training and the like. Part Two examines more specific aspects of performing. He discusses the unique challenges of performing works by specific composers including J. S. Bach, Robert Schumann, and the specific sound and techniques needed to perform violin works of Debussy.

He discusses fingering in some detail, and as he progresses it is clear that his approach is one of opinion rather than one in which he was attempting to set rules for others to follow. Szigeti's first discussion shows his preference to change from one string to another while playing the interval of a whole tone rather than a semitone. He provides examples which demonstrate what he believed to be a superior sound to the same passage when the violinists changes to a new string on the semitone. ${ }^{49}$

Szigeti also advocates the use of open strings often for the sake of comfort and intonation accuracy. ${ }^{50}$ He agreed also with the opinion of Abram Yampolsky and Carl Flesch that the $G$ string is more capable of producing a brilliant sound than the $D$ string. He provided the example of Beethoven's Sonata Op. 30, No 3 in which the note $\mathrm{f} \mathrm{\#}^{1}$ recurs with a sforzando indicated. This note, argued Szigeti, is more successful when played with the fourth finger on the G string rather than in first position on the $D$ string. It was his contention that the latter would not produce the necessary forceful sound. ${ }^{51}$ Szigeti provides numerous examples in his text regarding shifting on a semitone and using the same finger for two different notes. He employed this shifting technique frequently. His treatise also encourages violinists to use a different finger for an immediately repeated note. This latter technique is shared not only by Galamian and Flesch, but also by Yampolsky. ${ }^{52}$

[^14]Example 6: This is one example from Wieniawski's second concerto that Szigeti used to show the change of finger for the same note is identical to the fingering of Galamian's.

Each time the note is repeated in the line, it is played with a different finger:

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Szigeti explained his concept of a "natural" left hand position. Others designate this concept as having the interval of a perfect fourth between the first and fourth fingers. ${ }^{53}$ Szigeti argued that the hand could be trained to be comfortable whether the fingers are in this position, contracted to finger a smaller interval, or extended to finger a larger interval. ${ }^{54}$ Perhaps the most objective advice in his treatise regarding fingering surfaces when a melody is given in which aurally discernable segments are limited to one string. ${ }^{55}$ Szigeti discussed fingerings in this chapter by addressing the solo violin works of J. S. Bach (1685-1750), but his arguments are largely subjective, expressing his opinion regarding his own desired sound. ${ }^{56}$

[^15]This is the extent of Szigeti's discussion regarding fingering. The majority of his viewpoints are personal preferences rather than guidelines of which he was attempting to convince others.

## AN EXAMINATION OF MUSICAL EXCERPTS AS FINGERED BY CARL FLESCH AND IVAN

 GALAMIAN WITH EXPLANATIONSBelow is each excerpt with fingerings by Flesch. Because of a copyright issue, Galamian's fingerings are not reprinted in this edition of this study. They can be found either in editions published by the International Music Company of the musical works from which these excerpts were taken or in the print copies of this study in the University of Oklahoma Libraries. The fingerings shown do not necessarily coincide vertically with the notes they reflect; but there is a fingering given for each note, and it is a simple task to easily determine which fingering applies to a particular note. Multiple fingers used to finger double stops, chords, or grace notes with their accompanying notes are in order of lowest to highest notes and within parentheses. Below each excerpt is a brief explanation attempting to explain why they chose their fingerings and what conclusion can be reached. The topics are presented in the order they are presented within Flesch's treatise. Each excerpt is in the treble clef unless otherwise indicated. In some cases, the only usable excerpts contain printed fingerings. When these excerpts are used, there is a reminder immediately below to disregard these fingerings-they are not either those of Flesch or Galamian. Some excerpts edited by both pedagogues have been omitted, and this is for one of several reasons-either a conclusion regarding fingering could not be reached, or the example makes a redundant point.

## PART ONE: POSITIONS

## EXCERPTS CONCERNING THE FIRST POSITION

Caprice No. 2 by R. Kreutzer (C Major)
Flesch: 24210134


Galamian:

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This excerpt addresses the choice of whether to use an open string or a fourth finger in first position. Flesch states, "Not only in legato playing but also in the detache, the open E...should be replaced by the use of the fourth finger.... ${ }^{57}$ His discussion revolves around his obvious dislike for the then new steel E string. It seems that he preferred the more tempered sound of the gut E string. Galamian uses the open E string often, not only in this excerpt and etude, but within double stops and chords. Although he does not address it in his treatise, it seems that Galamian was in favor of the brilliance of the steel E string.

[^16]

Galamian:

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Flesch decides to eliminate the bariolage by using the fourth finger for $\mathrm{e}^{2}$, while

Galamian uses the open E string, perhaps to remain honest to the composer's intentions.

Concerto in A Minor, S. 1041 by J. S. Bach


Galamian:

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To eliminate playing open E string alone, Flesch proposes that the passage be rewritten as below.


Flesch: $\begin{array}{llllllllll}20 & 42 & 20 & 20 & 42 & 20 & 20 & 42 & 20\end{array}$

Again, Flesch states that the above revision is favorable because of the elimination of the open E string played alone.

## EXCERPTS CONCERNING THE HALF POSITION

Gavotte en Rondeau from Partita in E Major, S. 1006 by J. S. Bach
Flesch: 23433212 (while holding open E simultaneously)


Galamian:
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Flesch's fingering eliminates the half- step shift from $b^{1}$ to $a$-sharp ${ }^{1}$ using the first finger.
This example shows that especially within the slur did he believe that this shift was audible and distracting to the music.

Caprice No. 29 by R. Kreutzer (D Major)

$$
\text { Flesch: } 023213201324 \quad 420324321324
$$



Galamian:
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These similar excerpts concern the usage of a half- step shift within a slur. Flesch's
fingering avoids the half- step shift both times with the half position. Galamian's
fingerings contradict each other by using the half- step shift the second time only.

Caprice No. 6 by P. Rode (B Minor)

Flesch: 32141412


Galamian:

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Although they start in different positions, Flesch in half and Galamian in first, they both suggest using the first and fourth fingers for the octave from g-sharp to g-sharp ${ }^{1}$.

Caprice No. 22 by N. Paganini (F Major)

Flesch: 2302024212340


Galamian:

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This excerpt exemplifies each pedagogue's usage of both half position and the half- step shift. Flesch's fingering avoids the half- step shift while Galamian's does not, with the first finger playing both g-sharp and a. Another topic of discussion becomes apparent with this except as well. While the half- step shift is perhaps a subjective sound concept issue, neither pedagogue makes use of two half- step shifts consecutively, for example from a to g-sharp to a all using the first finger in this excerpt. Flesch's fingering avoids this altogether by eliminating the first half- step shift, but Galamian prevents this from happening by using the half position.

Double from Partita in B minor, S. 1002 by J. S. Bach

Flesch: 4103421204321202243212340


Galamian:

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Flesch's fingering uses the the half position for the length of the excerpt after the third note. Galamian's switches between the half and first positions because his fingering uses two half- step shifts, one within a slur and one during which the violinist must
change the bow. However, both pedagogues avoid the use of two half- step shifts in a row in the circled places show below.


Caprice No. 11 by P. Rode (B Major)
Flesch: 2313142433131324

(accents are from the Emil Kross edition)

Galamian:

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Flesch's treatise explains a dual purpose for using the half position in this excerpt. His fingering eliminates execution of a minor third (or enharmonic equivalent) with adjacent fingers. His rationale for this choice is to avoid stretching the fingers apart, thus retaining what he terms the "natural placement" of the fingers. ${ }^{58}$ His fingering also eliminates playing the fifth and seventh notes with the same finger. Galamian fingering puts this passage simply in the first position, thus not preventing either the interval of a minor third played with adjacent fingers and the oblique finger crossing.

[^17]Double from Partita in B Minor, S. 1002 by J. S. Bach
Flesch: 1340243213203


## Galamian

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Flesch's fingering uses half position to avoid the execution of the first two notes of the excerpt—being separated by a minor third—with adjacent fingers. His fingering also avoids the half- step shift from $\mathrm{e}^{1}$ to d-sharp ${ }^{1}$ using the first finger for both. As expected, Galamian uses the first position for much of this excerpt because he presumably did not feel the need to prevent either playing of a minor third with adjacent fingers or the halfstep shift.

Courante from Partita in B Minor, S. 1002 by J. S. Bach
Flesch: 33231301212243


Galamian:

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Flesch's fingering takes advantage of the half position again to avoid playing the fourth and fifth notes with adjacent fingers, their being a minor third apart. Galamian begins in second position to avoid having the f-sharp ${ }^{2}$ as the only note on the $E$ string in the passage. This concept will be discussed in detail shortly.

Caprice No. 10 by N. Paganini (G Minor)
Flesch: 101231101341


Galamian:
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This excerpt is another example in which Flesch's fingering avoids the equivalent of a minor third being played with adjacent fingers. Although the interval from the e-flat ${ }^{1}$ to the c-sharp ${ }^{2}$ is an augmented sixth, the first and second fingers' separation is equal to the interval of a minor third. Galamian's fingering does not avoid this stretch.

Grave from Sonata in A Minor, S. 1003 by J. S. Bach

Flesch: (001)4321(23)212132(10)


Galamian:

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Although they begin with different fingerings, both Flesch and Galamian agreed to shift to the half position after the trill on g-sharp ${ }^{1}$. This half position helps the violinist escape the oblique crossing of the first finger to play the last chord of the excerpt.

Double from Partita in B Minor, S. 1002 by J. S. Bach
Flesch: Entirely in half position except where bracketed below (first position)


Galamian: Half position only within bracketed sections below, otherwise in first position


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Galamian's fingering uses significantly less half position in this passage for various reasons. His fingering has half- step shifts: 1) In the second measure from the $\mathrm{e}^{1}$ to d -
sharp ${ }^{1}$ using the first finger; 2) In the third measure from the a-sharp ${ }^{1}$ to $b^{1}$ using the first finger; 3) In the fourth measure from the $b^{1}$ to $a$-sharp ${ }^{1}$ using the first finger; 4) In the fifth measure from a-sharp ${ }^{1}$ to $b^{1}$ using the first finger; and 5) In the ninth measure from the e-sharp ${ }^{2}$ to $f$-sharp ${ }^{2}$ using the first finger. Flesch's fingering utilizes only the last of these half- step shifts-it is puzzling that he chose this fingering because there is an option to extend the use of the half position to the end of the passage. Flesch's half position fingering causes the violinist to use the first and third fingers for a-sharp ${ }^{1}$ to c sharp ${ }^{2}$ while Galamian's first position fingering uses the first and second fingers for this interval. Both pedagogues use the half position to eliminate an oblique crossing with the first finger in the eighth measure from e-sharp ${ }^{2}$ to $b^{1}$.

Double from Partita in B Minor, S. 1002 by J. S. Bach
Flesch: 42032422323123242032


Galamian:
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Flesch's fingering avoids playing a minor third (or the enharmonic equivalent) with adjacent fingers-from the c-sharp ${ }^{2}$ to a-sharp ${ }^{1}$ which is circled above-and a half- step shift from the same $a$-sharp ${ }^{1}$ to the following $b^{1}$ using the first finger. Galamian's fingering avoids neither.

Double from Partita in B Minor, S. 1002 by J. S. Bach
Flesch: 321234123412


Galamian:

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Both pedagogues used the same fingering for this passage, avoiding multiple half- step shifts. It would be possible to use half- step shifts, using the same finger for two consecutive notes separated by a half- step, where circled above while remaining in first position.

Preludio from Partita in E Major, S. 1006 by J. S. Bach
Flesch: 31212340124232122


Galamian:

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Both Flesch and Galamian use the same fingerings to avoid oblique finger crossings.
These are show within each circle above. Each time the first finger is used for $b^{1}$ and the second finger is used for e-sharp ${ }^{1}$.

Caprice No. 12 by P. Rode (G-sharp Minor)
Flesch: 141302134

(printed fingerings are from the Emil Kross edition)
Galamian:

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Flesch uses the half position to avoid an oblique crossing and avoid using adjacent fingers over a minor third. The oblique crossing is avoided, even when the two pertinent notes are not consecutive, by using the third finger for c-sharp ${ }^{2}$ rather than the fourth finger which is already used for the f-double-sharp ${ }^{1}$. The minor third is from a-sharp ${ }^{1}$ to c-sharp ${ }^{2}$ with the first and third fingers, respectively. Galamian's fingering avoids the oblique crossing as well but uses adjacent fingers for the minor third from asharp ${ }^{1}$ to c -sharp ${ }^{2}$.

## EXCERPTS CONCERNING THE SECOND POSITION

Double from Partita in B Minor, S. 1002 by J. S. Bach
Flesch: $\quad 32103210243210132343214321413$


Galamian:

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Flesch and Galamian's fingerings are in agreement for the majority of this excerpt.
Second position accomplishes two things that would otherwise be undesirable. First, if the violinist were to remain in first position, then the fingering below would be necessary.


Both pedagogues avoid this stretch of the fourth finger. Second, the violinist would need to execute a shift to third position to play the $\mathrm{c}^{3}$, and thus he would also have to shift back to first position. Flesch and Galamian prevented this shift by using the second position.

Caprice No. 10 by N. Paganini (G Minor)
Flesch: (1234)2143214321(223)


Galamian:
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Both Flesch and Galamian agree that the best decision is to be in second position by the last b-flat to avoid shifting for the last chord. Otherwise, the violinist would be forced to end the run of single notes in first position and shift to third for the last chord. Shifting to the second position for the last chord from first would be impossible because the second finger would be forced to perform an oblique crossing. Instead, both pedagogues agree that the second position prevents this excessive shifting between first and third positions. Galamian's fingering differs from Flesch regarding voice-leading by putting the last five single notes on the $G$ string by beginning the solid staccato in third position. This fingering choice causes a cross to the G string beginning with the $f^{1}$.

Gigue from Partita in D Minor, S. 1004 by J. S. Bach
Flesch: 4301201324243243212112312


Galamian:

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Flesch and Galamian use second position for this excerpt although their fingerings arrive to it in slightly different ways. Second position prevents either of two undesirable outcomes with the $\mathrm{g}^{2}$ marked with an asterisk: 1) A shift to first position from third position for the $g^{2}$ which would be audible within the fast tempo; or 2) Crossing to the $A$ string to play the $\mathrm{g}^{2}$, thus it would be the only note within the slur on a different string. Galamian and Flesch both chose to employ a half- step shift from $\mathrm{g}^{2}$ to f -sharp ${ }^{2}$ that is bracketed in the excerpt. Flesch contradicts his earlier statement regarding half- step shifts, stating at this point, "... the half-tone progression is inaudible because of separate bows, ..."59 It seems that in this case he is accepting of the half- step shift if it is not within a slur.

Caprice No. 27 by R. Kreutzer (D Minor)
Flesch: 1321014324321321


Galamian:

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[^18]Both fingerings use the second position to prevent the excessive crossing of strings. If the violinist were to remain in first position, it would occur four times that a string crossing would be required to play only one note.

Double from Partita in B Minor, S. 1002 by J. S. Bach
Flesch: 2314322431314


Galamian:

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Both fingerings avoid unnecessary string crossings to maintain a more even timbre of sound. By shifting to second position on g-sharp ${ }^{1}$, the $D$ string is maintained for six notes before crossing to the A string for the remaining two notes. Otherwise, the violinist would be forced to cross to the A string, back to the D string for the last f-sharp ${ }^{1}$, and then to the A string again.

EXCERPTS CONCERNING HIGHER POSITIONS

Caprice No. 19 by N. Paganini (E-flat Major)
Flesch: (22)(01)3334334333


Galamian:
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Both fingerings use the third finger on e-flat ${ }^{4}$ on each occurrence. Where they disagree concerns the two occurrences of $d^{4}$-Galamian's editing advises using the second finger while Flesch's has the third finger. This disagreement probably arises from the problem of half steps in high positions being very close together. Flesch's fingering suggests that the use of the third finger avoids the problem of $d^{4}$ being flat because of the lack of room for its placement on the fingerboard.

Caprice No. 5 by P. Rode (D Major)
Flesch: 1234112314324132 (beginning on the A string)

(printed fingerings are from the Emil Kross edition)
Galamian:

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Flesch's fingering begins in the fifth position on the A string. Galamian's fingering remains on the E string throughout the passage-beginning in the first position, and shifting up the fingerboard only when necessary.

Caprice No. 6 by P. Rode (B Minor)
Flesch: 14142131424 (fifth note is with second finger on G string)


## Galamian:

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Flesch's fingering has the violinist use the second finger on the G string for f-sharp ${ }^{1}$. Galamian's fingering has the same note on the $D$ string in first position. This note, marked with a sforzando, requires a strong accent to begin the note.

Caprice No. 16 by N. Paganini (G Minor)

Flesch: 11322124

(beginning on the D string and crossing to the $G$ string for $g$-flat ${ }^{1}$ )

Galamian
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Although executed with different fingers on different strings, the fingerings are conceptually similar, using adjacent fingers to finger a diminished third.

Caprice No. 27 by R. Kreutzer (D Minor)

Flesch: 0424312430243

(printed fingerings are from the Edmund Singer edition)
Galamian:

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Both Flesch and Galamian change the diminished seventh—from e-flat ${ }^{2}$ to f-sharp ${ }^{1}$-to a major sixth in terms of fingering, using adjacent fingers.

Caprice No. 5 by N. Paganini (A Minor)
Flesch: 1313142013131324


Galamian:
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The fingerings of both Flesch and Galamian use enharmonic fingering to change A-flat Minor to G-sharp Minor-see the bracketed selection above.

Double from Partita in B Minor, S. 1002 by J. S. Bach

Flesch: 132332121323


Galamian:
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Flesch's fingering enharmonically changes the diminished seventh, bracketed above, to a major sixth, using adjacent fingers. Galamian does not make this enharmonic change.

Caprice No. 14 by P. Rode (E-flat Minor)
Flesch: 131213113131431321

(printed fingerings are from the Emil Kross edition)
Galamian:

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Flesch's fingering enharmonically changes the passage to E Major beginning with the second $f$-flat ${ }^{1}$ in the first full measure. It then treats the $c$-flat ${ }^{2}$ as enharmonically as a $b^{1}$, playing it with the third finger. Galamian, again, apparently thought there was no need to make this change.

## EXCERPTS CONCERNING MIXING POSITIONS

Fuga from Sonata in C Major, S. 1005 by J. S. Bach
Flesch: 14232424


## Galamian:

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Flesch's fingering avoids two oblique crossings, from $c^{1}$ to $g$-sharp ${ }^{1}$ and from $e^{1}$ to $f^{2}$ (crossing over two strings). The left hand is in two positions—the first and third fingers in the third position, and the second and fourth fingers in the second positions. Galamian's fingering remains completely in third position, carrying out the oblique crossings.

Caprice No. 24 by N. Paganini (A Minor)
Flesch: (410)21324 (first finger on $f^{2}$ is on the $A$ string)


Galamian:
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Flesch's fingering mixes first and second position, having the fourth finger in first position and the first finger in second position. Galamian executes all three notes on the $D$ string in second position.

Caprice Op. 35 No. 2 by J. Dont (A Minor)

Flesch: 2424241314241423

(fingerings in the manuscript are from the Carl Fischer edition)

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Flesch's fingering mixes the second and third positions. Galamian's mixes the first and second positions. The result is the same-both avoid the oblique finger crossing from $\mathrm{g}^{1}$ to $d$-sharp ${ }^{2}$ using the same finger.

Caprice No. 19 by P. Rode (E-flat Major)
Flesch: 112101234323


Galamian:

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Flesch's fingering combines the half and first positions when using second finger for the a. This fingering avoids the oblique crossing of the first finger. Galamian's fingering does not use this fingering; the left hand remains in first position, using the first finger for the a. Though one of his guidelines is to not use the same finger to two consecutive notes, it seems that he thought there was enough time with the bow change to eliminate any unwanted sound. ${ }^{60}$

[^19]Caprice No. 23 by N. Paganini (E-flat Major)
Flesch: 321432143212(0012)


Galamian:

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Both fingerings mix the half and first positions to avoid the oblique crossing of the first finger.

Caprice No. 2 by N. Paganini (B Minor)

Flesch: 232343243402343112


Galamian:

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The fingerings of Flesch and Galamian utilize identical mixing of positions, all to avoid any oblique crossings in the rather quick tempo this work demands. The boxed selections above show the mixing of positions: first with second position, first with second position again, and half with first position.

PART TWO: SHIFT OF POSITIONS

## EXCERPTS CONCERNING DIATONIC SCALES

Caprice No. 19 by N. Paganini
Flesch: 3012123121212344 (sul G)


Galamian:

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For this diatonic scale within repertoire, Flesch and Galamian have a difference of opinion regarding where to shift. Galamian shifts on the strong beats while Flesch shifts in the weak beats.

## EXCERPTS CONCERNING CHROMATIC SCALES

Caprice No. 5 by N. Paganini (A Minor)

Flesch: 1123401212340121234012123212104321210432121043211


Galamian:

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Flesch chose the fingering he did to avoid any half- step shifts. Interestingly, Galamian chose the old style of chromatic scale for this ascending scale. His fingering, however, does use the newer chromatic fingering while descending, where a finger is not used for two consecutive notes.

Caprice No. 24 by N. Paganini (A Minor)

Flesch: 143213213


Galamian:
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While Flesch chose the newer fingering, Galamian, while having the newer fingering as a secondary option, favored fingering this passage in the older style with half- step shifts. Again, this application is contrasts what he states in writing, that the newer style is clearer and therefore favorable.

Caprice No. 17 by N. Paganini (E-flat Major)
Flesch: 4321213143212142


Galamian:

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This excerpt shows that both pedagogues favor the newer style of chromatic fingering for this excerpt, avoiding any half- step shifts.

## EXCERPTS CONCERNING BROKEN TRIADS

Caprice No. 12 by R. Kreutzer (A Minor)
Flesch: 320130124


Galamian:

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Flesch's fingering uses the first, second, and fourth fingers for the minor triad that is formed with the last three notes of this excerpt. Galamian has no fingering above the
notes that compose the minor triad, so the violinist should assume that $\mathrm{c}^{3}$ is to be played with the third finger.

Caprice No. 24 by N. Paganini (A Minor)
Flesch: (124)21020


Galamian:

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Both fingerings have the left hand finger this broken minor triad being played with the first, second, and fourth fingers.

Caprice Op. 35 No. 3 by J. Dont (E Minor)

Flesch: 2421243431324231


Galamian:
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Flesch chose his fingering to avoid any unwanted glissandi in a passage of quick notes in rapid succession that depend on clarity. Again, Flesch's fingering has the left hand play the minor third e-flat ${ }^{2}$, g-flat ${ }^{2}$, b-flat ${ }^{2}$ (bracketed above) with the first, second, and fourth finger. Flesch also mentions that playing two consecutive notes with the same finger is an unwise decision for clarity. ${ }^{61}$ He provides, in his mind, an undesirable fingering with this kind of shift, using the same finger for e-flat ${ }^{2}$ and g-flat ${ }^{2}$ :

Flesch's unadvisable fingering beginning the above excerpt:

Galamian utilizes this kind of shift often in arpeggios, and many examples can be seen in three octave arpeggios in his scale book. ${ }^{62}$ There are several examples in the same caprice, one of which is below.

Galamian's fingering:


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[^20]Caprice No. 30 by R. Kreutzer (B-flat Major)
Flesch: 2020101020401030


Galamian:

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Flesch advises to play first inversion broken triads, as in the example above, with the first, second, and fourth fingers. From Galamian's markings, it appears that he used the first, third, and fourth fingers for this passage.

Caprice No. 11 by N. Paganini (C Major)

Flesch: 213212432131


Galamian:

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Flesch's fingering has the first, second, and fourth fingers executing the first inversion broken triad at the highest point in the excerpt. Again, Galamian's fingering calls for first, third, and fourth.

## EXCERPTS CONCERNING BROKEN SEVENTH CHORDS

Caprice No. 6 by P. Rode (B Minor)
Flesch: 112431


Galamian:

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Flesch and Galamian fingerings both have the broken seventh chord fingered with the first, second, and fourth fingers after the shift. The third finger needs to be saved for $a^{1}$, but, in addition, $e^{1}, g^{1}$, and $b^{1}$ form a minor triad, thus the fingering choice is expected from Flesch.

Caprice No. 27 by R. Kreutzer (D Minor)
Flesch: 24132413241341312413

(printed fingerings are from the Edmund Singer Edition)
Galamian:
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To avoid oblique finger crossings, Flesch's fingering for fully diminished seventh chords uses all four fingers, in the order of second, fourth, first, and third finger, to execute the broken chord. Galamian's fingering remains largely in first position with various stretches and does not have the violinist consciously avoid all oblique crossings.

Courante from Partita in B Minor, S. 1002 by J. S. Bach (B Minor)

Flesch: 143023231432


Galamian:

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Although the excerpt with different fingerings, the diminished chord in the second measure, bracketed above, is the focus. This diminished chord has a major sixth interval between the bottom two notes and a tritone interval between the top two notes. Both Flesch and Galamian suggest using the second, third, and first fingers rather than the third, fourth, and second.

Flesch: 112131


Galamian:
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This diminished chord is similar to the example immediately above, but it is reversed with the tritone between the bottom two notes and the major sixth between the top two notes. Flesch avoids the oblique crossing by using the third finger on $\mathrm{b}^{2}$. Galamian does not avoid this—his fingering uses the third finger for both g-sharp ${ }^{1}$ and $b^{2}$.

Caprice No. 28 by R. Kreutzer (E Minor)
Flesch: 02420213


Galamian:

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Flesch's fingering avoids the oblique finger crossing, and Galamian's does not.

Caprice No. 8 by P. Rode (F-sharp Minor)
Flesch: $\quad 343413134124301341302412$


Galamian:

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Flesch and Galamian use different applications of the same technique, using all the fingers to play fully diminished seventh chords to avoid oblique crossings. Galamian's fingering causes every two notes to be on a string together while Flesch's has the violinist cross to a different string for one note several times. However, a case can be made that Flesch's fingering may be easier for a smaller left hand, a valid argument.

## EXCERPTS CONCERNING FORWARD STRETCHES

Caprice No. 37 by R. Kreutzer (F Minor)
Flesch: 1(42)14212313


## Galamian:

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Flesch's fingering eliminates the need to stretch to $c^{3}$ because the shift to fourth position; the $\mathrm{c}^{3}$ is then played with the second finger. Galamian's fingering is Flesch's illadvised fingering, to stretch with the fourth finger to $c^{3}$ while remaining in first position.

Caprice No. 4 by P. Rode (E Minor)
Flesch: 04210421012102432


Galamian:

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Flesch avoids the forward stretch again by using first finger on the E string to play $f^{2}$. Galamian chose to stretch the fourth finger up on the A string to $f^{2}$, keeping the entire passage timbrally equal on the A string.

Caprice Op. 35 No. 7 by J. Dont (G Major)
Flesch: 0023231424323143


Galamian:

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The fourth finger must be used to play the first $d^{2}$ since it creates the interval of a tenth with the preceding $b$. Flesch stated that there should be no stretching because it is a true shift to fourth position. ${ }^{63}$ Although Galamian has the same fingering printed, there is a general understanding regarding fingerings that may create some confusion for this particular excerpt. In general, if a fingering is printed, it signals to the violinist to shift. If there is no fingering printed, then the violinist is to remain in position until the next note with a fingering presents itself. Galamian's editions tend to follow this rule strictly with only a few exceptions. After $d^{2}$ with a printed " 4 " above it, Galamian's next note, $e^{1}$, has " 2 " printed above it. If Galamian intended the fourth finger to be a shift, then there would be no need to have the printed " 2 " above $e^{1}$; it would be understood. Therefore, it is possible to deduce that the fourth finger on $d^{2}$ is a stretch rather than a shift. In addition, Galamian was a firm advocate of creeping fingering, in which the finger would stretch to a note, and while playing that note shift into position. This technique eliminates many glissandi from shifting. It is probable that Galamian intended for the violinist to stretch for $\mathrm{d}^{2}$, and have the hand shift into fourth position while that note was being played.

[^21]Caprice Op. 35 No. 5 by J. Dont (G Minor)
Flesch: 113111341434


Galamian:

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Flesch advised to shift rather than forward stretch for $d^{2}$. Galamian's edition has the same fingering printed, but there is the same ambiguity as in the previous example. Again, it can be inferred that Galamian intended for the violinist to stretch for $\mathrm{d}^{2}$ and have the left hand shift into position while the note was being played.

Caprice No. 2 by N. Paganini

Flesch: 032414101424


Galamian:

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Flesch's fingering avoids a forward stretch for $\mathrm{e}^{3}$ by employing the harmonic.
Galamian's fingering advises the same thing. The relatively fast tempo of this caprice may have been a deciding factor for both-not allowing time to shift the hand more.

Caprice No. 7 by P. Rode (A Major)
Flesch: (012)43142


Galamian:

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Both pedagogues chose to stretch to $f^{2}$ with the fourth finger on the $A$ string.

Caprice No. 6 by P. Rode

Flesch: 1314121412141214


Galamian:

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Flesch's fingering utilizes a forward stretch of the second finger for the second note of each interval of a seventh, bracketed above. Flesch's reason for this choice was to allow the fifth each time to be played with the first and fourth fingers, thus eliminating an audible shift which would be necessary if the interval were played with the second and fourth fingers. Galamian's fingering calls for each fifth to be played with second and
fourth fingers. It is not possible to execute this interval without physically shifting; in this slower tempo, the shift cannot be hidden.

## EXCERPTS CONCERNING BACKWARD STRETCHES

Caprice No. 4 by P. Rode (E Minor)

Flesch: 043424143434241434342414

(printed fingerings are from the Emil Kross edition)

Galamian:
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This excerpt concerns the backward stretch (toward the scroll of the instrument) of the first finger. Flesch's fingering avoids the stretches, citing possible intonation trouble. However, a weakness of his fingering is that each third finger, on the first and third beats of each measure, forces the violinist to cross to a new string to play only one note. Galamian's fingering has the left hand reach backward for the lowest note of each melodic segment, producing a uniform timbre by keeping each segment, and the whole melody, on one string.

Caprice No. 6 by P. Rode (B Minor)
Flesch: 242(43)231


Galamian:

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Flesch's fingering proposes a backward stretch of the second finger for the third note. This stretch—and the subsequent movement of the left hand into second positioneliminates audible glissandi and allows for the next shift to coincide with the bow change. Galamian's fingering forces a shift to reach the last $b$, involuntarily causing an audible shift when it could be avoided.

Caprice No. 1 by P. Rode (C Major)
Flesch: 4311321232


Galamian:
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The backward stretch with the third finger for the first $\mathrm{e}^{2}$ eliminates an audible glissando from the second to the third note.

Caprice No. 1 by P. Rode (C Major)
Flesch: 4314312


Galamian:

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The backward stretch with the third finger for the first $\mathrm{e}^{2}$ eliminates an audible glissando from the second to the third note.

Caprice No. 24 by P. Rode (D Minor)
Flesch: 143432130224 (the second note is on the D string)


Galamian:

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The backward stretch to play $b^{1}$ with the second finger eliminates any need for an audible shift.

Caprice No. 6 by P. Rode (B Minor)
Flesch: 4321214323212432


Galamian:

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Although the respective executions of the subsequent ending of the phrase differ, both Flesh and Galamian avoid a glissando within the dotted rhythm from a ${ }^{1}$ to f-sharp ${ }^{1}$ with a backward stretch.

EXCERPTS CONCERNING CREEPING INTO POSITION

Caprice No. 31 by R. Kreutzer (C Minor)
Flesch: 3214321214321


Galamian:

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In this Kreutzer excerpt, the creeping technique is used in both fingerings. Their fingerings differ slightly; Galamian's fingering uses it once while Flesch's uses it twice in
this excerpt. Both pedagogues' fingerings use the creeping fingering upon arrival to the sixth note. The fifth note, $\mathrm{g}^{1}$ is played in first position with the third finger. To avoid an oblique crossing with the third finger, the second finger is used to play the following $d$ flat ${ }^{2}$. The violinist's actions are simple-he/she places the second finger on the d-flat, and merely by lifting the other fingers the left hand is now in second position. Flesch uses creeping fingering to shift again in this excerpt while Galamian does not with his fingering choice.

Preludio from Partita in E Major, S. 1006 by J. S. Bach

Flesch: 313121212342213141312141


Galamian:

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Flesch's and Galamian's fingerings both reach third position by the second beat of this excerpt. To avoid an oblique crossing with the second finger, the third finger is used for d-sharp ${ }^{1}$. Consequently, the fourth finger is used for $e^{1}$ and the second finger for $c-$ sharp ${ }^{1}$. There is no conscious arm movement by the violinist, but regardless he/she is now in second position when previously in third, resulting from putting down the new fingers and lifting the old.

## EXCERPTS CONCERNING GLISSANDI

Caprice No. 23 by R. Kreutzer (B-flat Major)
Flesch: 21322132432321432132432103210

(printed fingerings are from the Edmund Singer edition)
Galamian:
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Flesch's fingering focuses primarily on shifting on the half steps using different fingers, for instance from second to third finger on e-flat ${ }^{3}$ to $d^{3}$. Galamian's fingering has the left hand shift down on whole step intervals.

Caprice No. 28 by R. Kreutzer (E Minor)

Flesch: 10414322


Galamian:

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This example shows both pedagogue's emphatic recommendation to avoid whole tone glissandi, using the same finger to play two consecutive notes a whole step apart, especially within a slur.

Caprice No. 14 by N. Paganini (E-flat Major)
Flesch: (122)4(124)3(112)


Galamian:

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The whole step shift with the same finger is avoided by using the third finger for e-flat ${ }^{2}$.

Caprice No. 16 by P. Rode (B-flat Major)
Flesch: 1312124313242134

(printed fingerings are from the Emil Kross edition)
Galamian:

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In this excerpt Flesch's fingering moves to fourth position early to avoid any shifting during the B-flat Major arpeggio that ends the excerpt. Galamian's fingering uses the type of shift twice that Flesch says to avoid.

Caprice No. 11 by P. Rode (B Major)
Flesch: $144434321242 \quad\left(e^{3}\right.$ played as a harmonic)


Galamian:

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Flesch's fingering utilizes the harmonic to eliminate a glissando while shifting. Flesch explains his choice of fingering by stating that although the harmonic has a lack of expressive power, the passage is in a fast tempo and therefore the harmonic is permissible. ${ }^{64}$ Galamian's fingering employs a half- step shift from $\mathrm{e}^{3}$ to d-sharp ${ }^{3}$.

[^22]Caprice No. 11 by N. Paganini (C Major)
Flesch: 1134314130131


Galamian:

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Both Flesh and Galamian use the open E string to shift back down to first position.
There is a difference in fingering before the open E string. Flesch crosses to the A string while Galamian remains on the E string, using backward stretches of the first and second fingers.

Caprice No. 22 by N. Paganini (F Major)
Flesch: 431320423103 (each time restez before open E)


Galamian:

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The fingerings of Flesch and Galamian disagree, as above, on the concept of crossing strings in the direction of the line. Flesch's fingering has the left hand remain in fifth
position until the first $\mathrm{e}^{2}$-which is played with an open string, and the second large beat is similar. Galamian's fingering does not have the left hand cross strings in the opposite direction of the line.

Caprice No. 36 by R. Kreutzer (E Minor)
Flesch: (34)2(34)140(31)


Galamian:

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Flesch's fingering uses the open A string to shift from second position to first position. Galamian's fingering may be confusing at first, but if the violinist were to attempt it, he/she would understand that since $b$ and $b^{1}$ are separated completely by articulation, using the same finger for both notes, although they are consecutive is possible. By doing this, Galamian's fingering does not cross strings in the opposite direction of the line.

EXCERPTS CONCERNING THE USE OF HARMONICS TO FACILITATE SHIFTING

Caprice No. 11 by N. Paganini (C Major)
Flesch: 2424231424 (the last two notes are harmonics)


Galamian:

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As shown above, Flesch's fingering has the last two notes played using harmonics.

Galamian's edition has no harmonics.

EXCERPTS CONCERNING USING THE BOW TO FACILITATE SHIFTING

Caprice No. 3 by N. Paganini (E Major middle section)
Flesch: 1242313121241431243

(printed fingerings are from the Carl Flesch edition)
Galamian:

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Both Flesch and Galamian have changed the bowing to facilitate clarity of sound. The manuscript—shown in chapter four-has $b^{2}$ within the previous slur rather than the beginning of the new one.

## EXCERPTS CONCERNING DECIDING THE APPROPRIATE TIME TO SHIFT

Caprice No. 36 by R. Kreutzer (E Minor)
Flesch: $\quad(24) 1(21) 3(13) 2(32) 2(12) 1 \quad\left(c^{2}\right.$ marked with * is on the $D$ string $)$


Galamian:

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Flesch's fingering has the violinist shift to fifth position on the $D$ string to prepare for $\mathrm{c}^{3}$. Galamian's fingering causes the shift to occur to begin the new phrase.

Caprice No. 37 by R. Kreutzer (F Minor)
Flesch: $\quad 2(11) 34314(31) 4 \quad\left(\mathrm{~g}^{2}\right.$ marked with * is on the A string)

(printed fingering is from the Edmund Singer edition)
Galamian:

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Flesch's fingering has the violinist shift early to prepare for the new phrase-the third finger on $\mathrm{g}^{2}$ places the left hand in fourth position in place for e-flat ${ }^{3}$ following the quarter rest. Galamian's fingering retains the first position to the end of the phrase.

The fingering calls for shifting only for the beginning of the next phrase after the quarter rest.

Caprice No. 7 by P. Rode (A Major)
Flesch: $\quad 13131314313202$ ( $f$-sharp ${ }^{2}$ marked with * is on the A string)


## Galamian:

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Flesch's fingering shifts to the fifth position by playing f-sharp ${ }^{2}$, marked with an asterisk, with the first finger on the A string. Galamian, like the above examples, chose to wait to shift to begin the new phrase segment in position.

EXCERPTS CONCERNING THE RETENTION OF FINGERS

Caprice No. 26 by R. Kreutzer (E-flat Major)
Flesch: 121234412

(printed fingers are from the Edmund Singer edition)

Galamian:

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Flesch's fingering has the violinist retain the first finger on $d^{3}$ throughout this excerpt.
The technical advantage is assurance of intonation on $d^{3}$ the second time it is played.

Galamian's edition nor his writings give insight into his application of finger retention.

Caprice No. 23 by P. Rode (F Major)

Flesch: (31)0(31)0(31)0(31)0(31)0(31)0(31)0(31)0


Galamian:

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Flesch advises to retain the first finger, again for the best possible intonation. ${ }^{65}$ Again, without explanation, it is impossible to deduce Galamian's viewpoint regarding this subject.

## EXCERPTS CONCERNING PARALLEL FINGERING

Caprice No. 8 by R. Kreutzer (E Major)

Flesch: 131413241424131413241424


Galamian:

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Flesch's fingering uses parallel fingering, in which each melodic segment of four notes is begun with first finger each time. Galamian's fingering does not use parallel fingeringthe first position is maintained throughout this excerpt. It may important to note that Flesch's fingering is not true parallel fingering. The intervals differ and therefore the fingerings differ although each set begins with the first finger.

[^23]Caprice No. 12 by P. Rode (G-sharp Minor)
Flesch: 131243131243131243131243


Galamian:

Flesch: 1312431312431312431

(printed fingerings are from the Emil Kross edition)

Galamian:
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With all intervals for each measure similar if not identical, Flesch's is a true parallel fingering. Starting with the fourth measure, Galamian's fingering also uses parallel fingering. However, in the beginning three measures it refrains from applying parallel fingering, perhaps because he wanted to use the timbre of the E string. Flesch's fingering shy's away from the E string when there is a sensible choice.

Caprice No . 2 by N. Paganini (B Minor)
Flesch: 2431243124312431


Galamian:

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Flesch's and Galamian's fingerings use different parallel fingerings. It is important to note that Flesch's fingering causes a string crossing to play only one note for each set of four notes.

Caprice No. 21 by N. Paganini (A Major)

Flesch: 24131324241313242413132424131324


Galamian:

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Flesch and Galamian's editions have the same parallel fingerings.

Caprice Op. 35 No. 2 by J. Dont (A Minor)
Flesch: 2412242324122423

(printed fingerings are from the Carl Fischer edition)
Galamian:

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Flesch's fingering parallel with intervals repeating after eight notes. Galamian's edition does not have any parallel fingering.

Presto from Sonata in G Minor, S. 1001 by J. S. Bach
Flesch: 204324314324314324314324


Galamian:

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Flesch's fingering is parallel; Galamian's is not.

EXCERPTS CONCERNING THE CHANGE OF POSITION BY LEAPING

Flesch: 212131321212131321212131321


Galamian:

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Flesch's fingering has the left hand rapidly shift to play the fourth note of each similar passage with the first finger. Galamian's fingering is similar for two of the three examples. Both fingerings coordinate the leap to the fourth note of each passage with a change of the bow.

Caprice No. 17 by N. Paganini (E-flat Major)

Flesch: 1432


Galamian:

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Flesch gave an explanation in his treatise describing how to practice leaping to the high b-flat ${ }^{3}$ using an intermediary note as a reference point. Galamian provided no written
explanation accompanying his edition-there is no more than a fingering given. Perhaps he left the mental process to the student to calculate.

Presto from Sonata in G Minor, S. 1001 by J. S. Bach
Flesch: 121324121324


Galamian:

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Flesch considered this excerpt uncomfortable because of the shift to second position for b with no reference point for the left hand. ${ }^{66}$ With no written explanation, Galamian's perspective cannot be determined.

Caprice No. 9 by N. Paganini (E Major)
Flesch: 21343142021134314202113431


Galamian:

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[^24]Flesch explains his recommending practice process using intermediary notes to learn the shifts to higher positions accurately. Galamian provided no written explanation.

Caprice No. 22 by P. Rode (G Minor)
Flesch: 1433214321432042132

(printed fingerings are from the Emily Kross edition)
Galamian:

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Flesch's fingering consciously avoids leaping to second position after the open D string in the third measure of this excerpt. Galamian's fingering utilizes the leap to second position, playing $b$-flat ${ }^{1}$ with the fourth finger after the open $D$ string.

Caprice No. 6 by N. Paganini (G Minor)
Flesch: $\quad(13)(13)(13)(13)(13)(24) \quad$ (The figure marked with * is on the $G$ string)

(printed fingerings are from the Carl Flesch edition)
Galamian:

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Flesch and Galamian used the same fingering in this excerpt-there is little else the violinist can do than to practice the leap to the G string many times to familiarize himself/herself with the feeling of where the left hand must go.

## EXCERPTS CONCERNING DECIDING TO CHANGE POSITIONS OR CHANGE STRINGS

Fuga from Sonata in C Major, S. 1005 by J. S. Bach
Flesch: 2432043213123123


## Galamian:

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Flesch explained that his primary concern was to have uniform timbre throughout the slur that is bracketed above. ${ }^{67}$ His fingering requires a shift to the third position, placing all notes in the slur on the D string. Galamian's fingering has the left hand shift to second position for c-sharp ${ }^{2}$, making this note the only one in the slur on the A string.

[^25]Caprice No. 15 by P. Rode (D-flat Major)

Flesch: 1313241313241313241


Galamian:

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Both Flesh and Galamian chose the same fingering to eliminate crossing to a new string to play only one note which would occur three times if this passage were taken in the first position entirely.

Gavotte en Rondeau from Partita in E Major, S. 1006 by J. S. Bach

Flesch: (13)2124(13)2123431


Galamian:

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Flesch and Galamian change to second position for the chord beginning the second measure. The reason for this shift is to avoid having $f$-sharp ${ }^{2}$, bracketed above, as the
only note on the E string. Flesch's fingering has the left hand to first position on the following d-sharp ${ }^{2}$ while Galamian waits until the last note of the excerpt to reach first position.

PART THREE: DOUBLE STOPS AND CHORDS

## EXCERPTS CONCERNING DOUBLE STOPS

When it is necessary to show double stop fingers in layers, the highest string will be the top layer. Otherwise, parentheses will still be used for double stops and chords when possible.

## THE UNISON

Caprice No. 39 by R. Kreutzer (A Major)
Flesch: 13433423 (while holding $b^{1}$ with the first finger on the $A$ string)

(printed fingerings are from the Edmund Singer edition)

## Galamian:

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This excerpts shows a clear example that unisons must be played with the first and fourth fingers playing the same note on different strings, as boxed above.

Caprice No. 32 by R. Kreutzer (F Major)

Flesch: 21021111 22244332

(printed fingerings are from the Edmund Singer edition)

Galamian:

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Flesch's and Galamian's fingerings both use the first and fourth fingers for the unison $\mathrm{c}^{2}$ double stop. Flesch's uses the second and fourth fingers for the preceding interval of the second, which is a large stretch.

THE SECOND

Fuga from Sonata in A Minor, S. 1003 by J. S. Bach
Flesch: $\quad 43410(42)(41)(32)(31)$


Galamian:

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The fingering for the second is with the first and fourth fingers, as in the boxed selection above.

THE THIRD

Caprice No. 1 by N. Paganini (within E Minor/G Major section)

Flesch: $\quad 0(42)(31)(42)(31)(04)(31)(20)(31)(04)(31)(20)$


Galamian:
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The important difference in fingering choice concerns the use of open strings. Flesch's fingering uses the open string for the lower note of the third in two places, bracketed
above. Flesch used this fingering to facilitate inaudible shifting. ${ }^{68}$ Galamian does not use this technique to finger thirds. His fingering keeps the upper note of the third on the upper of the two strings being used.

Caprice No. 18 by N. Paganini (C Major)
Flesch: $\quad(10)(04)(31)(20)(31)$


Galamian:

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Again, Galamian's fingering always has the upper note on the upper string, while Flesch uses the open A string for the lower note on the second double stop of the excerpt.

Caprice No. 33 by R. Kreutzer (F Major)
Flesch: $\quad(20)(31)(31)(03)(42)(11) \quad\left(\mathrm{g}^{1}\right.$ marked with * is a harmonic)


Galamian:

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[^26]This excerpt exhibits two differences between the fingerings and Flesch and Galamian concerning thirds. The first, using an open string for the lower note of a third, has been mentioned above. The second technique often shown by Flesch is the use of harmonics, such as $\mathrm{g}^{1}$ marked with an asterisk.

Caprice Op. 35 No. 21 by J. Dont (A Major)

Flesch: (10)(03)(32)(03)(20)(42)

(printed fingerings are from the Carl Fischer edition)
Galamian:

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Flesch's fingering uses the open A string to play the bottom note of both thirds with $a^{1}$ and $c^{2}$. Galamian's does not. His fingering maintains the upper string being used for the upper note throughout the passage.

Caprice Op. 35 No. 12 by J. Dont (G Major)
Flesch: $\quad(12)(34)(31)(43)(04)(20) 0 \quad\left(\mathrm{~g}^{1}\right.$ is a harmonic each time)

(printed fingerings are from the Carl Fischer edition)
Galamian:

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Flesch uses the harmonic to play $\mathrm{g}^{1}$ both times. Galamian puts no harmonics in the fingered excerpt of double stops.

Caprice No. 18 by N. Paganini (F Major)
Flesch: $\quad(03)(42)(31)(21)(03)(42)(31)(31)(04)$


Galamian:

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Flesch's fingering uses adjacent fingers to play the third $f^{2}$ and $a^{2}$ in order to keep the third finger ready for to play the following $\mathrm{g}^{2}$ on the A string. Galamian's fingering uses the traditional fingering for thirds in this excerpt, using the first and third fingers or the second and fourth fingers. Flesch's fingering uses the open string to play the lower note
of the third twice in this excerpt while Galamian always has the upper note of the double stop on the upper string.

Largo from Sonata in C Major, S. 1005 by J. S. Bach
Flesch: (34)1(24)2(43)(13)


Galamian:
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Flesch's fingering uses adjacent fingers for the third $c^{2}$ and $e^{2}$, presumably because the second finger was used for $\mathrm{c}^{1}$. Galamian uses the traditional finger of the second and fourth fingers for the third in question.

Caprice Op. 35 No. 12 by J. Dont (G Major)
Flesch: $\quad(42)(04)(10)(21)(42)(21)$


Galamian:
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Flesch and Galamian agreed to use adjacent fingers for the third $g^{1}$ and $b^{1}$. This fingering prepares the hand for the following third in second position.

Caprice No. 39 by R. Kreutzer (A Major)
Flesch: (23)23(41)


Galamian:
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The contracted fingering using the first and fourth finger avoids the oblique crossing of the third finger that otherwise would occur.

Chaconne from Partita in D Minor, S. 1004 by J. S. Bach

Flesch:
(42)3(41)


## Galamian:

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Flesch and Galamian use the contracted third fingering to avoid an oblique crossing with the third finger.

Caprice No. 13 by N. Paganini (B-flat Major)
Flesch:
$(31)(42)(31)(32)(32)(31)(31)(31)(31)(31)(31)(31)(31)(42)(31)$


Galamian:
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Because of the decreasing space between notes as the fingerboard is ascended, adjacent fingers for thirds in higher positions is preferable, as in this excerpt.

Caprice No. 18 by N. Paganini (C Major)
Flesch: (10)(32)(42)(31)


Galamian:

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Flesch uses adjacent fingering for the highest third in this excerpt, but Galamian does not, presumably because the third finger is being used for the preceding third in his edition.

Caprice No. 35 by R. Kreutzer (E-flat Major)
Flesch: $\quad(01)(42)(42)(31)(42)(31)(42)(11)$

(printed fingerings are from the Edmund Singer edition)
Galamian:
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The issue of shifting in dotted rhythms is a specific issue on which the fingerings of Flesch and Galamian agree—the shift follows the dotted note and precedes the quick note, as in this example.

THE SIXTH

Chaconne from Partita in D Minor, S. 1004 by J. S. Bach

Flesch: $\quad(14) 0(24) 0(34) 0(34) 0(23) 0(23) 0(23)$


Galamian:

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Flesch and Galamian have different fingerings but each uses adjacent fingers for the sixths.

Caprice No. 33 by R. Kreutzer (F Major)
Flesch: $\quad(20)(13)(04)(32)(31)(24)(14)(32)(31)$


Galamian:

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A contracted fingering is used for the sixth a and f-sharp ${ }^{1}$, bracketed above, by both pedagogues. Flesch uses another contracted fingering for the sixth $b$ and $g$-sharp ${ }^{1}$. Galamian does not because his fingering had the fourth finger in use on the previous chord on $c^{1}$. Though there is the slight difference in some fingering, the contracted fingering for the sixth is used to avoid an oblique crossing.

Caprice No. 17 by N. Paganini (E-flat Major)

Flesch: (01)(12)(13)(23)(01)


Galamian:

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A contracted fingering is used for the sixth a and f-sharp ${ }^{1}$, bracketed above, to avoid the second finger executing an oblique crossing to the $G$ string to play $b$-flat in the next measure.

Fuga from Sonata in C Major, S. 1005 by J. S. Bach
Flesch: (132)(41)3(112)(34)2(031)


Galamian:

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If minor sixths are a whole step apart, the fingering should be as above, with the first and second fingers playing the first sixth, and the third and fourth fingers playing the next.

Fuga from Sonata in A Minor, S. 1003 by J. S. Bach
Flesch: $\quad(013)(24)(13)(23)$


Galamian:

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Major sixths a step apart use the fingering above-first and third fingers for the first sixth and the second and fourth fingers for the next sixth. There is a slight discrepancy regarding the fingering for the last double stop.

Caprice No. 32 by R. Kreutzer (F Major)
Flesch: (31)(42)(31)(32)(34)


Galamian:

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Flesch provides this specific example to show that a shift is necessary to avoid an oblique crossing if a sixth follows a tritone, bracketed above (note that b-flat ${ }^{1}$ is
sustained for its full written duration). ${ }^{69}$ Flesch's fingering causes a shift to second position for the sixth that finishes the excerpt, thus eliminating any oblique crossing that the second finger might otherwise commit. Galamian chose not to finger this passage similarly. His fingering remains in third position.

Chaconne from Partita in D Minor, S. 1004 by J. S. Bach
Flesch: (132)(12)(11)


Galamian:

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As in the above example, Flesch provides this specific example to show that a shift is necessary to avoid an oblique crossing if a sixth follows a tritone. ${ }^{70}$ Galamian's fingering remains in the first position throughout this excerpt.

[^27]Caprice No. 6 by N. Paganini (G Minor)
Flesch: (34)(23)(13)


Galamian:

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Only the fingerings for the sixths are given above. The fingering for the middle note is excluded and not pertinent to this discussion regarding the sixths. Both Flesch and Galamian chose a contracted fingering for the last sixth, from a to f-sharp ${ }^{1}$. Flesch's explanation of his choice asserts that there is less chance of the first finger touching the open string accidently with this fingering. With no written explanation from Galamian, a conclusion regarding why he chose the same fingering cannot be reached.

Caprice No. 21 by N. Paganini


This caprice is discussed in more detail in the next chapter. Flesch's and Galamian's fingerings are identical or similar in some passages, and in some passages they differ. The explanation is provided in the next chapter.

Caprice No. 32 by R. Kreutzer (F Major)
Flesch: $\quad(42)(34)(23)(41)(31)(04)(31)(20)(42)(11)(11)$

(printed fingerings are from the Edmund Singer edition)
Galamian:

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In this excerpt, Flesch's fingering mixes the fourth and third positions during the third $\mathrm{g}^{2}$ and $b$-flat ${ }^{2}$ (by using the first and fourth fingers). Galamian's fingering remains in third position until the third $\mathrm{a}^{1}$ and $\mathrm{c}^{2}$ when it calls for a shift to first position.

Caprice No. 15 by P. Rode (D-flat Major)
Flesch: $\quad 31(34)(41)(23)(31)$


Galamian:
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Flesch's fingering mixes the first and second positions on the third e-flat ${ }^{2}$ and $g-f l a t^{2}$, bracketed above, by using the fourth and first fingers, respectively. This fingering avoids
the parallel (crossing of a perfect fifth) crossing of the fourth finger. Galamian's
fingering remains in the first position throughout-his edition has the parallel crossing.

Caprice Op. 35 No. 24 by J. Dont (E-flat Minor)

Flesch: $\quad(23)(23)(23)(41)(31)$


Galamian:

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Flesch's fingering mixes positions on the penultimate double stop to avoid an oblique crossing. Galamian's does not.

Chaconne from Partita in D Minor, S. 1004 by J. S. Bach

Flesch: (01)(23)(20)(31)(42)(20)


Galamian:

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Both pedagogues' fingerings avoid a possible oblique crossing, and each has a unique solution because of a bowing difference. Flesch's fingering has a shift to the half
position for the second double stop, eliminating any chance of the oblique crossing.
Galamian chose to remain in first position and then mix half and first positions on the third double stop to avoid the second finger's possible oblique crossing.

Loure from Partita in E Major, S. 1006 by J. S. Bach
Flesch: $\quad(223)(21)(23) 4$


Galamian:
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Flesch's fingering causes a shift after the third to avoid the parallel crossing of the first finger. Galamian's fingering does not avoid the oblique crossing because there are no slurs in this excerpt in his edition. Therefore, as in previous examples, the bow change negates the necessity to avoid an oblique crossing.

Caprice No. 39 by R. Kreutzer (A Major)
Flesch: $\quad(31)(21)(23)(21)(31)(34)(12)(04)$

(printed fingerings are from the Edmund Singer edition)
Galamian:

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Flesch's fingering avoids all oblique/parallel crossings. Galamian's fingering avoids only the first, shifting to second position on the sixth $d$-sharp ${ }^{2}$ and $b^{2}$.

## THE FOURTH

Caprice No. 19 by P. Rode (E-flat Major)

Flesch: (03)(31)(24)(23)(43)

(printed fingering is from the Emil Kross edition)

## Galamian:

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Flesch's fingering avoids three possible oblique/parallel crossings. Galamian's fingering avoids only the oblique/parallel crossing that is within the first slur. The movement to the beginning of the next measure crosses both fingers in an oblique or parallel movement in Galamian's edition.

Fuga from Sonata in A Minor, S. 1003 by J. S. Bach
Flesch: (20)3231(01)0(32)


Galamian:

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Although their fingerings differ slightly, Flesh's and Galamian's fingerings agree that the augmented fourth should be played with the second and third fingers, rather than the third and fourth.

Caprice Op. 35 No. 21 by J. Dont (A Major)
Flesch: (10)(03)(32)(03)(20)(42)

(printed fingerings are from the Carl Fischer edition)

## Galamian:

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The issue regarding fourths focuses on which fingers are more favorable to use.
Although the fingerings of Flesch and Galamian use different fingers for the augmented fourth (the third double stop of the excerpt), neither uses the third and fourth finger.

Caprice No. 4 by N. Paganini (C Minor)
Flesch: $\quad(20)(31)(42)(42)(42)(31)(21)(42)(41)$


Galamian:

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The fingerings of both Flesch and Galamian use the first and second fingers for the augmented fourth. The third and fourth fingers are not used for the interval.

Allegro assai from Sonata in C Major, S. 1005 by J. S. Bach
Flesch: 132123211432


Galamian:

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Flesch's fingering avoids using the third and fourth fingers for the diminished fifth, this time a broken interval. In this excerpt, Galamian chose to use the third and fourth fingers for the broken diminished fifth (enharmonically identical to an augmented fourth) interval.

THE FIFTH

Caprice No. 36 by R. Kreutzer (E Minor)

Flesch: (03)1(12)4(11)34


Galamian:

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Flesch's fingering uses the first finger for the fifth double stop; Galamian's uses the second. Galamian takes the melody into account, which is kept on the $E$ string with his fingering.

Caprice No. 31 by R. Kreutzer (C Minor)
Flesch: 4131324031134231


Galamian:

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Flesch's fingering uses the first finger for the broken fifth, bracketed above. Galamian's uses the third finger.

Caprice No. 9 by N. Paganini (E Major)
Flesch: $\quad(42)(31)(04)(04)(11)(31)$


Galamian:

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The first finger, rather than the third finger in third position, is used for this fifth.

Caprice No. 35 by R. Kreutzer (E-flat Major)

Flesch: (31)(42)(31)(31)(44)(44) (fifth played with harmonics)


## Galamian:

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Flesch's fingering has the fifth played with the fourth finger producing harmonics.
Galamian's, who tended to not put harmonics within fingered passages, uses the first finger for the fifth.

Caprice No. 4 by N. Paganini (C Minor)
Flesch:
$(31)(44)(31)(31)(32)$
(fifth played with harmonics)


Galamian:
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Harmonics are marked in Flesch's edition, played with the fourth finger. Galamian's fingering, as in the above examples, uses no harmonics.

Fuga from Sonata in A Minor, S. 1003 by J. S. Bach

Flesch: 21022044(42)
( $a^{2}$ and $d^{2}$ are harmonics played with the fourth finger)


## Galamian:

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Flesch's fingering utilizes the second finger for the first broken fifth and harmonics for the next broken fifth. Galamian's uses the first and second fingers and uses no harmonics in the fingered passage.

Caprice No. 28 by R. Kreutzer (E Minor)
Flesch: 13232313


Galamian:

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In this excerpt, Flesch used a different finger for the lower note of the broken fifth; his choice avoided having the third finger perform a parallel crossing to $\mathrm{c}^{1}$. Galamian's fingering uses the third finger for $\mathrm{c}^{1}$, having the parallel crossing.

## THE SEVENTH

Caprice No. 20 by P. Rode (C Minor)

Flesch: (42)3211(24)3(21)


Galamian:

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Two oblique or parallel crossings are avoided in this example in which both pedagogues use the same fingering. If the violinist were to remain in third position throughout the excerpt, the oblique or parallel crossings would occur.

Caprice No. 4 by P. Rode (E Minor)
Flesch: (42)3212(13)(2)(32)


Galamian:

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Flesch's fingering provides a different solution to this excerpt which is similar to the previous example. This different fingering avoids the same potential crossings.

Galamian chose not to avoid the parallel crossings in this example.

Caprice No. 32 by R. Kreutzer (F Major)


Galamian:

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Agreed upon by both pedagogues' fingerings, the extended fingering for the sevenths in this excerpt, bracketed above, are necessary for two reasons. The first seventh with adjacent fingers prepares the hand to extend to play the ninth from $\mathrm{g}^{1}$ to $\mathrm{a}^{2}$. The second seventh is played with the same adjacent fingers because the third finger was already used for the previous $\mathrm{g}^{2}$. Using the third finger again would cause an audible glissando by shifting on a whole step using the same finger.

Loure from Partita in E Major, S. 1006 by J. S. Bach

Flesch: $\quad$ 122(14)(32)(42)


Galamian:

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A contracted fingering for the seventh is necessary to avoid any oblique or parallel finger crossings to play the following diminished fifth, which must be played with the second and third fingers.

THE OCTAVE

Caprice No. 15 by N. Paganini (E Minor)
Flesch: $\quad 1424(13)(13) \quad$ (Octaves played on the D and A strings)


Galamian:

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If the fourth finger was used for the previous fingering, the first and third fingers are often used to following octaves, as in this example. The bracketed octave in this example was fingered by both pedagogues with the first and third fingers because the fourth finger was used for f-sharp ${ }^{3}$.

Caprice No. 3 by N. Paganini (E Minor)

Flesch: The first and third fingers are used for all octaves


Galamian: The first and third fingers are used for all octaves
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The first and third fingers are maintained for the duration of this excerpt because the violinist must use them to begin this passage-since beginning in a higher position, and there is no sensible opportunity to change to the conventional fingering using the first and fourth fingers.

Caprice No. 4 by N. Paganini (C Minor)

Flesch: $\quad(03)(14)(03)(14)(13)(13)(13)(13)$


Galamian:

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This excerpt shows the difference in distance between octaves in lower positions and those in higher positions, and the consequent difference of fingerings. The use of the first and third fingers coincides with the shift into higher positions.

Caprice No. 12 by N. Paganini (A-flat Major)

Flesch: 41414242424242323212


Galamian:

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Both pedagogues's fingerings use the second and fourth fingers for the broken octaves $d$-sharp ${ }^{3}$ and d-sharp ${ }^{2}$. The first finger must be reserved for $a^{2}$ to avoid oblique finger crossings at the end of the excerpt.

Caprice No. 3 by N. Paganini (E Minor)
Flesch: $\quad(24)(13)(24)(13)(24)(13)(24)$


Galamian:
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Both pedagogues agree on the use of fingered octaves for this excerpt.

Caprice No. 4 by N. Paganini (C Minor)
Flesch: $\quad(112)(13)(24)(13)(24)(13)(24)(13)(24)(13)(24)(13)(24)$


Galamian: All octaves played with first and fourth fingers

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There is a difference of opinion regarding the fingering for this excerpt. Flesch's fingering uses fingered octaves while Galamian's has all uniform octaves with the first and fourth fingers.

Caprice No. 19 by P. Rode (E-flat Major)

Flesch: 1021324132413241324131324


Galamian:

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Flesch's fingering has fingered octaves while Galamian's has uniform fingering with the first and fourth fingers.

Caprice No. 3 by N. Paganini (E Minor)
Flesch: $\quad(13)(13)(13)(24)(13)(13)(13)$


Galamian: All uniform octaves with the first and third fingers
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Flesch's fingering combines uniform and fingered octaves. Galamian'a uses all uniform octaves.

Caprice No. 24 by N. Paganini (A Minor)

Flesch: $\quad(24)(13)(13)(24)(24)(24)(13)(24)(13)(13)(13)$


Galamian: All uniform octaves with the first and fourth fingers

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Flesch's fingering combines uniform and fingered octaves. Galamian'a uses all uniform octaves.

Caprice No. 15 by N. Paganini (E Minor)

Flesch: $\quad(13)(24)(13)(24)(13)(13)(13)(13)(24)(13)(13)$


Galamian: All uniform octaves with the first and fourth fingers
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Flesch's fingering combines uniform and fingered octaves. Galamian'a uses all uniform octaves.

Caprice No. 23 by N. Paganini (E-flat Major)

Flesch:

$$
(13)(13)(42)(31)(42)(31)(13)(13)(13)(13)(24)(13)(13)(13)
$$


(bracketed selection is in octaves in Flesch and Galamian editions)
Galamian:

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Flesch's fingering mixes octaves to eliminate some glissandi. Galamian's does as well in this excerpt.

Caprice No. 17 by N. Paganini (E-flat Major/C Minor)
Flesch: 34333232343332323433343334413 12111010121110101211121112201


Galamian:

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Though the fingerings differ slightly, both pedagogues use mixed octaves in this passage.
Galamian's fingering avoids any open strings, as in many other fingers of his, likely because desired uniform timbre which would be interrupted by the timbre of the open string.

Caprice No. 17 by R. Kreutzer (B-flat Major)

Flesch: 414314312414314314


Galamian:

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The shift in Flesch's fingering takes places within the same pitch class rather than after its completion. Galamian's fingering as the shift executed after the completion of each pitch class.

## THE TENTH

Caprice No. 20 by P. Rode (C Minor)
Flesch: (243)432343(12)(14)


Galamian:
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Flesch's treatise explains that the reason for his usage of first and second fingers on the sixth a-flat ${ }^{1}$ and $f^{2}$ is to prepare the hand for the tenth. Galamian's fingering uses the two middle fingers on the sixth.

Caprice No. 42 by R. Kreutzer (D Minor)
Flesch:
$(124) 332(14)(14)(14)(32)(32)(32)(14)(14)(14)$

(printed fingerings are from the Edmund Singer edition)
Galamian:

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Although arriving at different times, both fingerings have the left hand move to third position for e-flat ${ }^{2}$ before the tenth $f^{1}$ and $a^{2}$. To prepare for the next tenth, Flesch applies a stretched fingering using adjacent fingers for the preceding third, presumably to stretch the fingers before the tenth $\mathrm{e}^{1}$ and $\mathrm{g}^{2}$ arrives. Galamian does not prepare for the tenth $\mathrm{e}^{1}$ and $\mathrm{g}^{2}$ in this way. He uses the first and third fingers for the preceding third.

Caprice No. 39 by R. Kreutzer (A Major)
Flesch: $\quad(23)(24)(14)$


Galamian:

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To prepare for a tenth following an octave, both pedagogues have the octave played in a stretched position, albeit with two different fingerings.

Caprice No. 4 by P. Rode (E Minor)
Flesch: (24)(14)


Galamian:
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To prepare for a tenth following an octave, both pedagogues have the octave played in a stretched position, albeit with two different fingerings.

## EXCERPTS CONCERNING CHORDS

Caprice Op. 35 No. 11 by J. Dont (B Minor)
Flesch:
(223)3(421)3(4210)
(112)402(312)


Galamian:

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The half position is the only sensible way to execute the four- note chord. Flesch's fingering shifts to half position one note early while Galamian shifts only for the chord itself. For the second excerpt from the same caprice, both Flesch and Galamian move to half position one note before the ultimate chord.

Fuga from Sonata in C Major, S. 1005 by J. S. Bach
Flesch: (23)(14)1(0023)1(112)


Galamian:

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The fingerings of Flesch and Galamian use half position for the four note chord to avoid an oblique crossing by the first finger for the following $f^{2}$. The ultimate chord is fingered differently—Flesch's fingering uses third position to avoid having the third finger play the perfect fifth. As shown above, he avoided using this fingering in perfect fifth double stops as well.

Flesch: (223)23(132)23(13)23(134)


Galamian:

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The ultimate chord has a seventh, and Flesch's fingering use the first and third fingers for the seventh. Galamian's fingering for the same chord uses a stretched fingering, using adjacent fingers for the seventh. Flesch's also avoids using a half- step shift from b-sharp ${ }^{1}$ to c -sharp ${ }^{2}$, but Galamian's uses the half- step shift.

Caprice No. 11 by N. Paganini (C Major)

Flesch: (112)(014)321(223)(124)432


Galamian:

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For the chord $\mathrm{c}^{1}, \mathrm{~g}^{1}$ and e-flat ${ }^{2}$, the second finger is used for the fifth and the third finger for e-flat ${ }^{2}$. The first position cannot be used because the fifth with the third finger is inadvisable, and the third position cannot be used because; 1) the first finger was just used for $\mathrm{f}^{2}$; and 2) An oblique crossing with the second finger would occur as it crossed to $\mathrm{g}^{1}$ following. No explanation is given from Flesch or Galamian why the whole step shift with the fourth finger is acceptable for this excerpt.

Caprice No. 7 by N. Paganini (A Minor)
Flesch: $\quad(213)(113)(123)(134)$


Galamian:

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The mixture of the first and second positions eliminates any oblique crossing.

Fuga from Sonata in C Major, S. 1005 by J. S. Bach
Flesch: (112)1)(421)31(031)


Galamian:

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Using the third finger for $\mathrm{d}^{2}$, bracketed above, avoids an oblique crossing of the second finger.

Adagio from Sonata in C Major, S. 1005 by J. S. Bach
Flesch: (2330)1(2330)1(2330)1


Galamian

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Both pedagogues used unique devices to solve this fingering problem. Flesch's fingering uses different fingers to play the bottom fifth. Galamian's fingering alternates between the second and third finger to play the bottom fifth.

Caprice No. 11 by N. Paganini (C Major)

Flesch: (132)4212


Galamian:

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The fourth finger on $d^{2}$ prevents the third finger from making an oblique crossing to reach the note.

Fuga from Sonata in G Minor, S. 1001 by J. S. Bach
Flesch:
(132)(112)


Galamian:

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Flesch's fingering avoids oblique or parallel crossings of the second and third fingers that Galamian's causes. As mentioned above, Flesch fingerings show his preference for playing fifths with the first finger.

Adagio from Sonata in C Major, S. 1005 by J. S. Bach
Flesch: (4102)121(1204)2


Galamian:

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This excerpt shows that each pedagogue applied the same unique guidelines to chords that they applied single notes and double stops. In the last four-note chord, as fingered by Flesch, the A string is used for the highest note, while the E string is being used for the note below. Galamian's fingering follows his rule that the top string be reserved for the top note. Both pedagogues use the fourth finger for c-sharp ${ }^{1}$, presumably because it was not used in the previous chord.

Chaconne from Partita in D Minor, S. 1004 by J. S. Bach
Flesch: (031)2(421)


Galamian:

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As with broken minor triads above, minor triads played as chords are fingered with the first, second, and fourth fingers.

Caprice Op. 35 No. 1 by J. Dont (F Major)

Flesch: (421)(431)(431)


Galamian:

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The middle chord, a major triad, is fingered the same as a broken triad, with the first, third, and fourth fingers.

Caprice No. 11 by N. Paganini (C Major)
Flesch: (014)(13)(23)(21) ( $d^{1}$ cannot be sustained)


Galamian:
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Though different fingerings, both avoid the oblique crossing of both the first and second fingers to the ultimate double stop. The first chord of this excerpt may be another indication that Flesch had a smaller left hand than Galamian did because of the different fingerings used for the octave.

Fuga from Sonata in G Minor, S. 1001 by J. S. Bach
Flesch: (431)32(213)1


Galamian:

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Though the fingers shift to second positions at different times, the diminished chord with a tritone on the bottom and a sixth on the top is fingered with the second, first, and third fingers. This usage is identical to the same chord when broken.

Fuga from Sonata in A Minor, S. 1003 by J. S. Bach
Flesch: 2121234(112)


Galamian:
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The oblique crossing that would occur in first position is avoided by playing the ultimate chord in second position, although the fingerings of Flesch and Galamian get to second position differently.

Fuga from Sonata in C Major, S. 1005 by J. S. Bach
Flesch: $\quad(0310)(132)(112) 21(113)$


Galamian:

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The oblique crossing of the second finger is avoided by moving to second position for the third chord of the excerpt.

Caprice Op. 35 No. 11 by J Dont (B Minor)
Flesch: (223)2(214)2(214)


Galamian:
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Oblique crossings are all avoided by using the second finger for the entire bass line.

Caprice Op. 35 No. 11 by J Dont (B Minor)

Flesch: 1(421)1(421)1(421)


Galamian:

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Similar the previous example, the same finger used for the entire top line avoids any oblique crossings which would otherwise occur.

## EXCERPTS CONCERNING THE BREAKING OF CHORDS

Andante from Sonata in A Minor, S. 1003 by J. S. Bach

Flesch: (1021)2121


Galamian:

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Flesch and Galamian agreed that the first finger should be used for both a and $f$-sharp ${ }^{2}$ because the rolling of the chord is executed slowly enough to allow the first finger to cross inaudibly.

Adagio from Sonata in C Major, S. 1005 by J. S. Bach
Flesch: (2320)1(2320)1(2320)2


## Galamian:

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Flesch and Galamian's fingerings agree. The roll of the chord is executed slowly enough that the second finger should be used for both b-flat and $c^{2}$.

Caprice No. 11 by N. Paganini (C Major)

Flesch: (012)(11)(212)


## Galamian:

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While Flesch's fingering has the violinist use the second finger for $f^{1}$ and $g^{2}$ in the ultimate chord of this excerpt, Galamian chose a contracted fingering, using the third finger for $\mathrm{g}^{2}$.

## EXCERPTS CONCERNING ARTIFICIAL CHORDS

Caprice No. 24 by N. Paganini (A Minor)

Flesch: (421)34143


Galamian:

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Flesch's fingering has the grace notes fingered with their accompanying $b^{1}$, as a chord with three fingers placed simultaneously on three strings. Galamian's fingering has these three notes all on the $D$ string and executed quickly—it is not possible to place all fingers simultaneously. It is clear, in this example, that Galamian did not treat this arpeggio as a chord.

PART FOUR: FINGERING AS A MEANS OF EXPRESSION

EXCERPTS CONCERNING TIMBRE

Allemande from Partita in D Minor, S. 1004 by J. S. Bach
Flesch: (10)(10)212341321214 (violinist shifts on $f^{1}$ to remain on the $G$ string)


Galamian:

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Flesch's fingering keeps a uniform timbre by keeping the beginning melodic line on the G string through the first eight notes. Galamian's fingering keeps the violinist in third position, utilizing the D string beginning with the fifth note.

Grave from Sonata in A Minor, S. 1003 by J. S. Bach
Flesch: (23)11332421 ( $d^{2}$ played with a harmonic)


Galamian:

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The fingering of Flesch keeps the melody on the $D$ string in the beginning of this excerpt. Galamian remains in first position and crosses to the $A$ string on $b^{1}$.

Allemande from Partita in D Minor, S. 1004 by J. S. Bach
Flesch: 02024323212


Galamian:

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Both Flesch and Galamian keep uniform timbre until b-flat ${ }^{2}$ by remaining on the A string, although with different fingerings.

Adagio from Sonata in G Minor, S. 1001 by J. S. Bach
Flesch: $24432113203204243423 \quad$ ( $a^{2}$ played with a harmonic)


Galamian:

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The fingerings of Flesch and Galamian disagree with the beginning of this excerpt, Galamian's fingering crossing to the E string while Flesch's used the A string only. However, after this discrepancy, both apparently agreed that the diversity of string changes was necessary in this passage.

## EXCERPTS CONCERNING CHOICE OF STRING

Allemande from Partita in D Minor, S. 1004 by J. S. Bach
Flesch: $\quad 201221321212432321132(03) \quad$ (on the $G$ string beginning with $f^{1}$ )


Galamian:

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The violinist would cross to the $G$ string earlier if using Flesch's fingering, bringing out a character of brilliance with the natural strength of the $G$ string. Galamian's fingering has the violinist remain in the first and second positions, producing a simpler, perhaps solemn character.

Allegro from Sonata in A Minor, S. 1003 by J. S. Bach

Flesch: 2123432121212343 (on the G string throughout)


Galamian:

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Flesch chose to seek a brilliant, virtuosic character by keeping this entire excerpt on the G string. Galamian elected to remain in first position throughout this excerpt.

Sarabanda from Partita in D Minor, S. 1004 by J. S. Bach
Flesch: (001)3210143212


Galamian:

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Flesch elected to use the third position to reach the G string quickly in the passage, while Galamian remained in first position. In the respective edition of each pedagogue, there is a change to a downbow on $f^{1}$. Flesch's fingering choice coincides with the change of bow-the last bow is entirely on the $G$ string.

Allegro assai from Sonata in C Major, S. 1005 by J. S. Bach
Flesch: $2341224321232144321 \quad\left(\mathrm{~g}^{1}\right.$ marked with * played with harmonic)

*
Galamian:

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The violinist who chooses Flesch's fingering will get to the G string much earlier, producing a brilliant, powerful sound from $\mathrm{g}^{1}$ marked with an asterisk. Galamian's fingering remains in first position.

Sarabanda from Partita in D Minor, S. 1004 by J. S. Bach
Flesch: 2321432121211332 (remaining on the G string to the end)


Galamian:

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Flesch's decision to finish the movement on the $G$ string produces a brilliant, powerful, and virtuosic sound perhaps more suitable for romantic violin works. His decision, however different from the today's accepted standard of playing the solo works of Bach, is subjective.

Chaconne from Partita in D Minor, S. 1004 by J. S. Bach

(entirely on the G string until double stop)

Galamian:

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Flesch's choice for ending the chaconne with the powerful G string produces a powerful virtuosic sound. Galamian's choice of second position requires the change of strings. Its result is a pure, simpler sound with perhaps not as much emotional strength.

Minuet II from Partita in E Major, S. 1006 by J. S. Bach
Flesch: 31131312314323232 (the entire passage on the A string)


Galamian:

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This gentle passage is an example of Flesch using the higher positions on the A string.
Galamian, as in other examples, chose to keep the left hand in lower positions and cross strings more often.

Sarabanda from Partita in D Minor, S. 1004 by J. S. Bach
Flesch: 0213124241232 (b-flat ${ }^{2}$ on A string)


Galamian:

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Galamian's fingering places b-flat ${ }^{2}$ on the $E$ string. Using this fingering, the violinist will remain in lower positions and produce a simpler sound, while Flesch's fingering will produce a more virtuosic character with a portamento.

## EXCERPTS CONCERNING OPEN STRINGS IN CANTILENA

Caprice No. 37 by R. Kreutzer (F Minor)
Flesch: (11)(32)432


Galamian:

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Flesch's fingering avoids the use of the open string while Galamian's does not. This excerpt may not fulfill the criteria of having the character of cantilena. Rather than having slow, sustained melodic lines, this caprice has many string crossings, and its principal motive is repeated almost every measure. Furthermore, the tempo marking is allegro vivace, seemingly a contrasting marking for a passage in cantilena.

Andante from Sonata in A Minor, S. 1003 by J. S. Bach
Flesch: $\quad(34)(24)(23) 1(13)(13) 2(13) 1$


Galamian:

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Flesch's fingering avoids the use of the open A string in this passage while Galamian's does not. It is important to note that the open string is not within the melodic line but a part of the harmonic accompaniment. Perhaps this fact contributed to Galamian's decision regarding its usage.

Caprice No. 4 by P. Rode (E Minor)
Flesch: $\quad(32)(31)(12)(04)(23)(21)$


Galamian:

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Both pedagogues avoided the use of the open E string to begin this excerpt. Note that Flesch chose to play the higher note with the lower of the two strings for the third a ${ }^{1}$ and $\mathrm{c}^{2}$. Galamian, as expected, kept the upper note on the upper string.

Largo from Sonata in C Major, S. 1005 by J. S. Bach
Flesch: (2331)2121


Galamian:

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At first glance, Flesch's fingering is confusing. He chose to shift to fourth position for the upper two notes of the chord to avoid the open E string in this slow, sustained passage. Galamian's fingering remains in the first position using the open E string.

Largo from Sonata in C Major, S. 1005 by J. S. Bach
Flesch: (342)4121423(1132)3(423)


Galamian:

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Flesch's fingering avoids the use of the open E string while executing the trill. His fingering puts the left hand in third position, and the only way to execute the chord $\mathrm{c}^{1}$, $\mathrm{g}^{1}$, b-flat ${ }^{1}$, and $\mathrm{e}^{2}$ is by playing all notes separately and with both $\mathrm{g}^{1}$ and b-flat ${ }^{1}$ on the D string. This execution essentially turns the chord into a note with three grace notes. Galamian's fingering does not avoid the open E string.

EXCERPTS CONCERNING HARMONICS IN CANTILENA

Chaconne from Partita No. 2 in D Minor, S. 1004 by J. S. Bach


Galamian:

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Flesch's treatise gives this excerpt as an instance when the harmonic produces a desired bell-like quality. ${ }^{71}$ While Galamian, as in several above examples, approaches Bach's solo violin works with a different sound concept involving more string crossings and fewer position changes, he selected to use some open strings and harmonics, presumably to achieve the same character.

EXCERPTS CONCERNING THE USE OF THE THIRD FINGER AT A MUSICAL CLIMAX

Allegro amabile from Sonata No. 2 in A Major, Op. 100 by J. Brahms

Flesch: 1133312


## Galamian:

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Flesch had the violinist use the third finger for $a^{3}$, the highest and most emotional note of the phrase. Galamian's fingering uses the fourth finger for the same note.

[^28]Adagio Cantabile from Scottish Fantasy by M. Bruch (E-flat Major)

Flesch: 123


Galamian:
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The third finger is used for the highest note by both pedagogues.

## EXCERPTS CONCERNING THE CHANGE OF FINGERS

Andante from Sonata No. 2 in A Major, Op. 100 by J. Brahms
Flesch: 333213212


Galamian:

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Flesch's fingering changes fingers on the repeated $\mathrm{a}^{3}$ on its third hearing. Galamian's fingering retains the same finger for each repetition.

## EXCERPTS CONCERNING VOICE-LEADING

Chaconne from Partita in D Minor, S. 1004 by J. S. Bach

Flesch: (03)432143212321032(31)432132101 (bracketed sections on G string)


Galamian:

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Both pedagogues chose fingerings that show voice- leading. Flesch's put the longer lines, bracketed above, entirely on the G string, aurally designating them as segments that are similar with the contrasting segment in between. Galamian's fingering keeps the left hand in first position, aurally separating shorter, motivic segments of the melody.

Chaconne from Partita in D Minor, S. 1004 by J. S. Bach

Flesch:


Galamian:

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Although fingerings are different, similar segments of the melodic fragments are on the same string or strings as they repeat each time, displaced by a step in this example.

Chaconne from Partita in D Minor, S. 1004 by J. S. Bach
Flesch: unclear fingerings


Galamian:

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Though Flesch did not correctly fill in all of the necessary fingerings in his treatise, he bracketed the same sections bracketed above, showing their similarity and the fact the segment is to be on the G string each time. Galamian's fingering achieves this as well.

Fuga from Sonata in C Major, S. 1005 by J. S. Bach
Flesch: $\quad 312314121312312040412312040 \quad$ (each $\mathrm{e}^{1}$ is on G string)


Galamian:

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Flesch and Galamian use different strings for $\mathrm{e}^{1}$, but each reserves the chosen string for only that note in this passage.

Allegretto grazioso from Sonata No. 2 in A Major, Op. 100 by J. Brahms
Flesch: $\quad 44313413244431341431 \quad\left(d^{2}\right.$ marked with * played with harmonic)


Galamian:

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The use of different strings aurally separates melodic sements, and both pedagogues have identical fingerings for this excerpt except for one discrepancy with the penultimate note. Each element is confined to one string-the first to the $D$ string, the second to the A string, the third again to the D string (creating a timbral association to the first segment), and the fourth on the A string (creating a timbral association to the second segment).

Allegro amabile from Sonata No. 2 in A Major, Op. 100 by J. Brahms

Flesch: 342314323142


Galamian:

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Flesch's fingering confines each similar melodic segment to a different string as bracketed above. The first segment begins the excerpt, the second begins with the third measure, and the third begins with the fifth measure. Galamian's fingering does not produce the same aural effect. While the first segment is on the E string using his fingering, half of the second segment is as well. Galamian's fingering does, however, begin the third segment in the same manner as Flesch, crossing to the $D$ string for the second c-sharp ${ }^{2}$.

Sarabanda from Partita in D Minor, S. 1004 by J. S. Bach
Flesch: (32)(12)1(12)1 (beginning in the $D$ and $A$ strings)


Galamian:
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Flesch's fingering quarantines the melody $-g^{2}, d^{2}$, e-flat ${ }^{2}$, and b-flat ${ }^{1}$-to the A string. Galamian's fingering has it begin on the E string and continue on the $A$ string.

Adagio from Sonata in C Major, S. 1005 by J. S. Bach
Flesch: $\quad(31)(20)(31)(20)(31)(34)(34)$


Galamian:
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Flesch's fingering keeps melody, the top line, on the $D$ string throughout the excerpt. Galamian's has the melody cross to the A string for $b^{1}$.

Chaconne from Partita in D Minor, S. 1004 by J. S. Bach

Flesch: (4204)3(113)


Galamian:
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Flesch's fingering requires that the first chord be rolled, the top note played separately from the bottom three. In addition, his fingering has both $\mathrm{a}^{1}$ and $\mathrm{e}^{2}$ on the A string, fingered with an open string and the fourth finger, respectively. Galamian has the same chord executed with one note on each string.

Fuga from Sonata in A Minor, S. 1003 by J. S. Bach

Flesch: (0043)1(41)2


Galamian:

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Flesch's fingering puts two notes on the $D$ string in the first chord, $d^{1}$ and $b^{1}$. The melody, in the inner voice, is entirely on the D string if Flesch's fingering is used.

Galamian has one note on each string for the first chord, putting the melody on two different strings.

Fuga from Sonata in A Minor, S. 1003 by J. S. Bach
Flesch: (001)(310)3(21)4(113)


Galamian:

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In this example, both pedagogues limit the melody, in the bottom voice, to the D string for uniform timbre.

Minuet II from Partita in E Major, S. 1006 by J. S. Bach
Flesch: (112)3210(23)1(02)


Galamian:

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The point of focus for this excerpt is the double stop $a^{1}$ and $f$-sharp ${ }^{2}$, bracketed above.
Flesch's fingering causes $f$-sharp ${ }^{2}$ to be played on the A string. Galamian's fingering keeps the left hand in first position with $f$-sharp ${ }^{2}$ played on the $E$ string.

Allegro moderato from Concerto No. 2 in D Minor, Op. 22 by H. Wieniawski

Flesch: 3212423


Galamian:

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Flesch disapproved of half- step shifts using the same finger. ${ }^{72}$ In this excerpt, Flesch uses different fingers to eliminate the half- step shift which could result from using the same finger for c-sharp ${ }^{2}$ and $d^{2}$. Galamian's fingering uses the first finger for both notes.

Allegro from Sonata No. 3 in D Minor, Op. 108 by J. Brahms

Flesch: 3322


Galamian:

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[^29]Flesch utilized a half- step shift with the same finger, and his rationale was that this passage necessitates a rise in expression and volume. Galamian used second position with no portamenti.

Adagio from Sonata in C Major, S. 1005 by J. S. Bach
Flesch: (123)3(103)4(124)3


## Galamian:

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Flesch used an ascending portamento from $a^{2}$ to $c^{3}$, justified by the need for excitement and energy. ${ }^{73}$ Galamian used a half- step shift during the second beat of the measure using the same finger, as shown above.

Caprice No. 7 by P. Rode (A Major)

Flesch: 13242


Galamian:

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While Flesch clearly encouraged the use of a portamento while playing an ascending third, his treatise explains that this is an example of when to avoid it-the portamento to $\mathrm{e}^{2}$ would create an unwanted accent. Instead, his fingering has the shift to third position wait for the sforzando. Galamian has no audible shift.

Un poco presto e con sentiment from Sonata No. 3 in D Minor, Op. 108 by J. Brahms Flesch: (42)(41)(41)(23)(23)(23)


Galamian:

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Flesch's fingering uses a portamento for the sixths that are a third apart enharmonically.

Accompanied by a crescendo, it is probable he found this audible shift quite appropriate.

Galamian's edition has the identical fingering.

Allegretto grazioso from Sonata No. 2 in A Major, Op. 100 by J. Brahms
Flesch:


Galamian:

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This example shows Flesch's tendency toward portamenti spanning an ascending perfect fourth. His argument in favor of his favoring cites voice- leading (the melody on the D string only) as the principle consideration as well as the energy that the portamento creates. ${ }^{74}$

Finale from Scottish Fantasy, Op. 46 by M. Bruch (C Major section)
Flesch: 233222 (beginning in fifth position)


Galamian:

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[^31]Flesch advises to save the portamento for the highest note, also the emotional climax, of the phrase. Galamian's fingering is that which Flesch advises against, using an audible shift between the first two notes of the excerpt.

Andante Sostenuto from Scottish Fantasy, Op. 46 by M. Bruch (A-flat Major) Flesch: 1433


Galamian:

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Flesch used this portamento to reach the climactic note. Galamian'S fingering does not; his fingering choice places the portamento between the first two notes.

Allegro amabile from Sonata No. 2 in A Major, Op. 100 by J. Brahms

Flesch: 112233222


Galamian:

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Flesch's fingering uses a portamento to reach the climactic note of this excerpt.

Galamian does not use any audible shift.

Adagio cantabile from Scottish Fantasy, Op. 46 by M. Bruch
Flesch: 144121 (entirely on E string)


Galamian:

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Though using different fingerings, both pedagogues' fingerings agree to use a portamento to reach the climactic note of the excerpt. In his treatise, Flesch advised to slide on the finger that will be used for $f^{3}$. Galamian's edition does not provide any written explanation specifying the type of portamento be preferred.

Adagio from Sonata No. 1 in G Major, Op. 78 by J. Brahms
Flesch: $\quad(32)(12)(12)(12)$


Galamian:
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Flesch's fingering uses a portamento to shift to the sixth $\mathrm{d}^{1}$ and $b$-flat ${ }^{1}$, the climactic point of the phrase. Galamian's fingering avoids an oblique crossing from the first double stop to the second, but it produces very little audible shift.

EXCERPTS CONCERNING TRILLS

Caprice No. 19 by R. Kreutzer (D Major)
Flesch: 21212121 (trill always occurs with the second and third fingers)

(printed fingerings are from the Edmund Singer edition)
Galamian:

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Both Flesch and Galamian agreed in this excerpt to trill using the second and third fingers for each occurrence.

Adagio from Sonata in C Major, S. 1005 by J. S. Bach


Galamian:

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The open string and first finger are used to execute the trill in both editions.

Caprice No. 9 by N. Paganini (E Major)
Flesch: 24432 (trill executed with third and fourth fingers)

(8va throughout this excerpt)

## Galamian:

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Both pedagogues advise using the third and fourth fingers for this high trill.

## CHAPTER FOUR

## CONCLUSIONS DRAWN FROM FINGERING COMPARISONS

Conclusions will be discussed by topic as presented in the preceding chapter. The appendix included in this study contains a chart listing concise guidelines that may be used to follow the fingering tendencies of each pedagogue. Any excerpts referred to in this chapter can be referenced in the section in chapter three corresponding to the same topic, and referring to the excerpts when reading conclusions is advised for comprehension.

Conclusions regarding the first position
Each excerpt compared addresses the issue of whether to use the fourth finger in first position or to use an open string. While Flesch's fingering avoids the open string if a sensible alternative existed, Galamian's editions use of the open strings often. It is possible for one to infer that he favored the open string often and in more circumstances than Flesch did. It should be noted that, roughly forty years after Flesch published his treatise, many violinists still avoid the open E string when possible, perhaps to a fault. However, it can be argued that the open E string supplies brilliance, the assuredness of good intonation, ease of playing, and perhaps overall confidence as a result.

Conclusions regarding the half position

The first topic regarding half position in Flesch's treatise is the use of the halfstep shift, during which the same finger is used to play two consecutive notes separated by the interval of a half step. He stated his view clearly that this type of shift should be avoided at all costs. ${ }^{75} \mathrm{He}$ believed that this shift was audible and distracting to the listener especially within a slur. By contrast, the above excerpts are some of the many occurrences in Galamian's editions in which this type of shift appears, one that he stated in his treatise is an asset to violin fingering technique. ${ }^{76}$ His editions often have the halfstep shift occurring within a slur. Galamian's treatise states that the half- step shift can be almost inaudible if it is "by a sudden motion of the finger, which should be made to sound as nearly as possible like the articulation of another finger dropping on the string."77 It can be deduced that there are specific circumstances in which Galamian avoided half- step shifts. The example from Double from J. S. Bach's Partita in B Minor shows one-in which several two-note slurs occur consecutively. Galamian's fingering avoids this usage. It may be assumed that if Galamian thought that they would not distract the listener, he would have used them. However, they cannot be audibly eliminated, and therefore several half- step shifts in a row, perhaps with this particular bowing of two notes slurred, may produce less clarity and distract the listener from the musical line. In addition, the first and fifth excerpts concerning the half position show

[^32]Galamian's avoidance of using two half- step shifts consecutively, such as playing the notes $a, g$-sharp, a all with the first finger on the $G$ string.

The next topic regarding the half position is the question of whether half position is a true shift or rather only a stretch of the left fingers backward. Flesch stated that it is necessary to move the entire arm, thus shifting rather than stretching, to play notes in half position. ${ }^{78}$ Galamian's treatise does not address this issue; however, to play an octave with the first and fourth fingers, as in Caprice No. 6 by P. Rode, the performer has no choice but to be move the left hand from first position by using the arm.

Flesch's use of the half position also eliminates the execution of the interval of a minor third—or its enharmonic equivalent—with two adjacent fingers. Galamian's fingerings often do not avoid this stretch, and there are ample examples of this in his edition of the solo violin works of J. S. Bach. This is the first indication that perhaps Flesch's hands were smaller than Galamian's. It is possible that he could not comfortably stretch this distance.

Flesch introduced what he termed an oblique crossing in his discussion of the half position. An oblique crossing is the playing of two notes, consecutive or otherwise, a diminished fifth apart, or enharmonic equivalent, with the same finger on different strings. Avoiding oblique crossings when choosing fingerings continues to be a priority throughout Flesch's treatise. Galamian's fingerings often avoid them as well. If the notes are played consecutively or simultaneously, Galamian's fingerings avoid oblique

[^33]crossings without fail-"General clarity can be improved further [by] fingering the passage so that the same finger is not used on two consecutive notes"-although his advocacy of the successful half- step shift is an important exception to this statement. ${ }^{79}$ In studying the many editions of Galamian, it is important to remark that his fingerings generally avoid oblique crossings only if the notes are consecutive.

Conclusions regarding the second position

The first excerpt concerning second position addresses the issue of whether the violinist should stretch the fourth finger forward toward the bridge to reach notes such as $f^{2}$ on the $A$ string or $c^{3}$ on the E string. The pedagogues' fingerings agree in the first excerpt that the second position can eliminate the need to stretch.

In addition, second position can lessen the amount of shifting necessary, such as in the first excerpt above concerning second position. Instead of shifting more between the first and third positions, the second position can sometimes be retained for a longer period of time.

It is important to note that at this point in his treatise, the half- step shift begins to appear more in Flesch's fingerings if notes are separated. It can be inferred that he was more accepting of half- step shifts if they were not within a slur.

Second position can often eliminate the need to cross to a new string to play one note only. If this string crossing occurs, the sudden change in timbre is startling. Flesch states, "Frequently, a string crossing for the sake of a single note can be eliminated by

[^34]means of the second position. ${ }^{\prime 80}$ Although Galamian provided no written explanation regarding this specific application, it may be clear that his choice of second position is used for the same reason. This concept can be expanded to include any positions and any musical passage. Crossing to a new string for one note only should be avoided if possible. As mentioned by Szigeti, it is important for the violinist to carefully decide fingerings that keep aurally discernable segments of a melody to one string. ${ }^{81}$

Conclusions regarding the higher positions
Flesch discusses using the third finger in higher positions rather than the fourth to eliminate the problem of supinating the left arm too much. ${ }^{82}$ There are many circumstances in which Galamian's fingering also uses the third finger rather than the fourth in higher positions, at least partially for the same reason.

There is a choice to make concerning fingering while in the higher positions. It is whether to shift to retain the uniform timbre of one string (often the Estring) or remain in higher positions while changing strings, commonly known as restez. Flesch discussed three main reasons for restez in his treatise: for security, the elimination of unwanted glissandi, or timbre. ${ }^{83}$ The excerpt from Rode's fifth caprice illustrates the difference between Flesch and Galamian regarding this dichotomy. While Flesch chose to finger

[^35]the excerpt completely in the higher positions for the sake of security of intonation, Galamian chose to retain the uniform of the timbre of the E string and consequently requiring more shifting. An inference can be made concerning the fingering of this excerpt that Flesch's priority was technical security while Galamian's was obtaining a particular desired sound.

The last excerpt concerning the higher positions addresses the issue of timbre. The f-sharp ${ }^{1}$ requires a strong accent, and Flesch's fingering has this note fingered on the $G$ string. This fingering choice produces more power than Galamian's fingering which has this note is in the first position on the $D$ string. This question of choice of string will be examined in more detail below.

Conclusions regarding enharmonic changes
An enharmonic change is a resulting fingering from the actual distance between two notes rather than the interval. Achieving better intonation is the overwhelming reason for enharmonic changes. The first enharmonic change addressed in comparable excerpts is the diminished third. Although fingered on different strings, both fingerings change the interval of a diminished third to a major second, using adjacent fingers as they would be normally used when fingering notes a major second apart. Similarly, both pedagogues enharmonically changed the interval of a diminished seventh to a major sixth, using adjacent fingers.

Ease of playing and key comprehension are also important reasons for enharmonic changes. Both pedagogues' fingerings used the G-sharp Minor fingering in

Paganini's fifth caprice. Many violinists find this fingering easier to execute, and that may be for one of several reasons. The fingers are not contracted in G-sharp minor as they are in A-flat Minor. Also, the key of five sharps appears to be more readily comprehendible than the key of seven flats. The excerpt from Rode's fourteenth caprice was enharmonically changed by Flesch apparently for the those reasons. Galamian's fingering makes no enharmonic changes for this excerpt, and his fingerings do not make these changes as often as those of Flesch. The excerpt Double from J. S. Bach's B Minor Partita is another example of Flesch making an enharmonic change that Galamian did not.

## Conclusions regarding mixing positions

Flesch's fingerings in the excerpts concerning mixing positions have two primary objectives. His fingering in the first of these excerpts eliminates oblique finger crossings. Galamian's fingerings often do not avoid these crossings in excerpts concerning this topic, perhaps for the same reasons stated above. Galamian's fingering was chosen because the notes are neither played simultaneously in a chord nor are they played consecutively, and therefore do not require the use of different fingers to avoid the oblique finger movement. However, Galamian did avoid the same oblique crossing that Flesch did in the third excerpt although the two pertinent notes are played neither consecutively nor simultaneously.

Flesch's apparent aim for the mixing of positions was to alleviate also what he decided was an uncomfortable stretch. In the second excerpt concerning this topic,

Flesch eliminated the stretch from $d^{1}$ to $f^{1}$ that is caused when fingered with the fourth and second fingers, respectively. Using the first finger on $f^{1}$ reduces the stretch of the hand. This is another example showing that perhaps Flesch's left hand was smaller than Galamian's. Stretches that were playable for Galamian were apparently too large for Flesch.

PART TWO: SHIFT OF POSITIONS

Conclusions regarding diatonic scales
Flesch's and Galamian's fingerings for scales differ. In the only excerpt that can be compared as being edited by both pedagogues, Flesch had the violinist shift between the strong beats while Galamian had the left hand shift on the strong beats. This is one example of the differing scale fingerings between them. Their scale books can be consultated for a more in- depth comparison.

Conclusions regarding chromatic scales
Both pedagogues state in their respective treatises that the "newer" style of fingering is preferable, using a fingering that does not execute any half- step shifts. ${ }^{84}$ The fingering of Galamian's for Paganini's fifth caprice may be startling to violinists who have studied the fingerings of Galamian, as this choice appears an anomaly.

Conclusions regarding broken triads

[^36]Flesch states that broken triads in minor should be played with the first, second, and fourth fingers. ${ }^{85}$ Galamian's fingering follow this trend often, but not exclusively, as seen in the excerpts found in chapter three. This is, perhaps, another example demonstrating that Galamian had a larger left hand than did Flesch. Thus he could have spanned larger intervals that were perhaps uncomfortable for Flesch.

A significant difference in fingering arpeggios becomes apparent with the comparison of excerpts concerning broken triads. Flesch advised against playing two consecutive notes with the same finger as an unwise decision for clarity. ${ }^{86}$ Galamian's fingerings have this shift, playing two consecutive notes in an arpeggio with the same finger. Galamian's scale book has multiple examples of this type of shift in arpeggios.

The excerpts in chapter three also address broken first inversion triads. Flesch's fingering uses the first, second, and fourth fingers for first inversion triads while it appears that Galamian's used the first, third, and fourth. Although a perfect fourth seems to be a large stretch from the third to the fourth finger, perhaps this is another example of Galamian's large hands being able to reach farther than Flesch's. In Kreutzer's twelth caprice, Galamian also calls for the same fingers used for the broken first inversion triad.

Conclusions regarding broken seventh chords

[^37]The excerpts for this topic concern different parts and different voicings of broken diminished seventh chords.

The first excerpt concerning broken seventh chords focuses on the part of a halfdiminished seventh chord that forms a minor triad - the top three notes of the chord. Both fingerings for the first excerpt of this topic show that Flesch and Galamian agreed to finger this minor triad with the first, second, and fourth fingers.

The second excerpt concerns broken fully diminished seventh chords. Flesch's apparent priority was to avoid all oblique crossings by using all fingers for the broken chord, in the order second, fourth, first, and third fingers. The last excerpt is an example of different application of the same fingering to play fully diminished seventh chords. Galamian's fingering requires the left hand to stretch a bit farther than Flesch's, perhaps another indication that he had a larger left hand.

The third excerpt concerns a specific voicing of a broken diminished seventh chord, one that has a major sixth interval between the bottom two notes and a tritone interval between the top two notes. Both pedagogues chose to use the second, third, and first fingers instead of the third, fourth and second fingers, presumably for ease. In this example, no finger is used twice to avoid an oblique crossing.

However, in the next example, Flesch fingered the broken seventh chord using the same guideline, avoiding an oblique crossing. In this example, Galamian used the same finger twice, causing the left hand to perform an oblique crossing with the third finger. This is yet another example that shows Galamian apparently did not feel it necessary to avoid the oblique crossing because the notes are neither consecutive nor
performed simultaneously in a chord. It is important to note that Galamian used the same fingering as Flesch in at least one excerpt in the works for solo violin by J. S. Bach. ${ }^{87}$

Conclusions regarding forward stretches
Flesch used the term "forward stretch" to indicate the left fingers stretching in the direction of ascending notes. For example, if the fourth finger were used on the E string to stretch to $\mathrm{c}^{3}$, this extension is a forward stretch. Flesch warned against forward stretches because of unstable intonation and his lack of ability to create a vibrato if stretching. His fingering has the left hand avoid these stretches while Galamian's does not. Flesch's fingering also avoids the stretch of a tenth in Dont's fifth and seventh caprices; he explains that a shift is preferable to a stretch. ${ }^{88}$

In the excerpt of Paganini's second caprice, both pedagogues' fingerings use a harmonic for $\mathrm{e}^{3}$. This harmonic eases the stretch of a fingered tenth, and since this caprice has a relatively quick speed, the note does not need to be sustained. A harmonic is acceptable in this case. However, if forced to choose, Flesch stated that he would rather employ a forward stretch with the fourth finger than a backward stretch (toward the scroll of the instrument) with the first finger. ${ }^{89}$ It is probable that because

[^38]he considered the half position a true shift, he was not comfortable stretching backward for $f^{2}$.

The example of Rode's sixth caprice shows Flesch's choice when given two fingering options containing a forward stretch. He would rather have stretched forward with the second finger than with the fourth finger, probably because the covered distance between the first and second fingers can be more than that between the third and fourth fingers.

Conclusions regarding backward stretches
The excerpts in chapter three demonstrate two reasons for backward stretches-uniform timbre and the avoidance of unnecessary glissandi.

Conclusions regarding creeping into position

Creeping fingering is a shifting technique. Rather than the finger, hand, and arm moving simultaneously, creeping separates these elements. The finger stretches to the new note, and the hand and arm follow, subsequently shifting while the note is being played. The excerpts above show Flesch's advocacy of this shifting. This is one of the more important elements also in Galamian's teachings. His edition of the Sonatas and Partitas by J. S. Bach is perhaps the foremost source for teaching and learning how to shift in this fashion. The primary purpose of this shifting technique is to avoid glissandi thereby keeping the melodic line as clear and pure as possible.

## Conclusions regarding glissandi

In a descending scalar passage, Flesch believed that the shift should take place between the two notes a half step apart within the scale. ${ }^{90}$ His explanation offers that a shift will be least audible if it takes place between two notes that are separated by the smallest distance possible. ${ }^{91}$ Although Galamian believed in the utmost cleanliness, he also believed in changing scale fingerings, as stated in his treatise:

I most emphatically believe in varying the fingerings, in changing them from time to time. Scales, arpeggios, and other similar studies should be worked with different fingerings...This keeps a piece from getting stale and frozen... ${ }^{92}$

Galamian did not want his students to keep with one fingering only. Therefore, he believed that a scale could be made clear using different fingerings. Both pedagogues agree that playing two consecutive notes separated by a whole step with the same finger creates an unwanted glissando.

Flesch believed it necessary to avoid fingering two consecutive notes in an arpeggio separated by a third using the same finger. ${ }^{93}$ The excerpt from Rode's sixteenth caprice shows how Flesch's fingering has the left hand avoiding this type of shift twice by having the left hand shift to begin the last arpeggio. Galamian's fingerings use often the type of shift that Flesch says to avoid, not only in this excerpt but in many

[^39]arpeggios within the repertoire as well as in his scale book. ${ }^{94}$ This excerpt is one of many that demonstrates Galamian's favorable opinion regarding shifts of a third using the same finger.

The excerpts in chapter three concerning this topic also reiterate what has already been discussed. It is the respective avoidance and usage of the half- step shift by Flesch and Galamian.

Conclusions regarding using open strings to shift
The fingerings of both pedagogues use the open string to shift. It is clear from studying each pedagogue's fingerings that they both favor shifting while playing an open string when appropriate. An important timbral issue concerns whether it is more favorable to cross strings in the direction of the line. By example, Flesch's fingering has the left hand cross back to the open E from the A string while the melodic line is descending. Galamian's fingerings tend to strictly follow the guideline that string crossings should occur in the direction of the melodic line. If the melodic line is ascending, the violinists should cross strings in an ascending manner, and vice versa.

Conclusions regarding using harmonics to facilitate shifting
The first excerpt in chapter three concerning this topic gives Flesch's fingering which uses harmonics for the last two notes. "Relative safety can be achieved only

[^40]through two harmonics in succession," is Flesch's explanation for his fingering choice. ${ }^{95}$ Galamian's fingerings often do not use harmonics within fingered passages, and this excerpt is no exception. If played, the two harmonics have a different sound than the preceding fingered notes. Making a judgment from examining the majority of his editions, it is probable that he believed that the timbre of the melodic line was the most important consideration. Consequently a fingering choice that sacrifices the best possible sound for ease of playing is undesirable.

Conclusions regarding using the bow to facilitate shifting
The excerpt edited by both pedagogues is one example of using the bow to facilitate shifting. This example is more accurately an example of using the bow to achieve clarity. Note the original bowing in the manuscript below in which $\mathrm{b}^{2}$ is contained within the previous slur rather than within the beginning of the new one.

Example 6: Manuscript of excerpt from Paganini's third caprice


Both pedagogues changed the bowing for clarity. Otherwise, the options create either an audible shift on the A string or an audible string crossing from the D string to the E string within the slur.

[^41]Conclusions regarding deciding the appropriate time to shift
Flesch's fingerings often have the violinist shift to higher positions to prepare for a new phrase. He states in his treatise that this preparation is often necessary. ${ }^{96}$ After studying the editions of Galamian, a judgment can be made regarding this subject. More often than not, Galamian's fingerings have the violinist end the phrase and then shift only to begin the new one, thus keeping phrases more aurally distinct.

Conclusions regarding the retention of fingers
Flesch instructs in his treatise that a violinist should only retain fingers if there is a decidedly strong technical advantage regarding intonation. Otherwise, retention of fingers creates tension and impairs vibrato. ${ }^{97}$ Galamian has no mention in his treatise regarding the retention of fingers. It is impossible to deduce Galamian's viewpoint regarding this topic. In his scale book, he has a specific notation for finger retention while playing arpeggios. However, there is no such notation in his editions of works in the violin repertoire.

## Conclusions regarding parallel fingering

[^42]Parallel fingering is the result of using the same or similar finger patterns in sequences. Flesch asserted that parallel fingering helps with memorization. ${ }^{98}$ By treating each melodic segment as a grouping with similar finger patterns and beginning each group with the first finger, it is possible that parallel fingering may help some violinists with memorization. Galamian's fingerings use parallel fingering sparingly, and any possible reason given would only be an inference. His treatise does not mention this fingering technique.

Conclusions regarding change of position by leaping
Flesch's treatise explains that leaping to a new position occurs when the note after the shift is reached by a rapid movement of the left hand. The two notes are not connected by intermediary steps of shifting or any glissando. The first excerpt in chapter three concerning this topic shows the leap to the new position coinciding with a bow change, a solution that apparently made the leap more comfortable for Flesch.

Flesch's explanation of his plan of execution regarding the excerpt from Paganini's seventeenth caprice probably provides some insight into how he expected his students to practice leaping using intermediary notes. Galamian's treatise provides no explanation regarding how he taught or how he wanted his students to perceive shifting by leaping.

The excerpt from Rode's twenty-second caprice provides insight regarding how Flesch and Galamian viewed changing position by leaping. In this excerpt, Flesch chose

[^43]a fingering that consciously avoided the change of position by leaping. It may be surmised that if there was an option to do so, he avoided leaping in favor of an early preparation. Galamian's fingering does not avoid leaping. In fact, it can be said after examining his editions for this study that his fingerings use leaps often, thus requiring violinists to become comfortable with their instruments in terms of knowing where the notes are on the fingerboard.

Conclusions regarding change of position or change of string
Flesch stated, "If a uniform timbre is desired for a phrase, it is better to change the position and not the string. To facilitate bowing, one should avoid, whenever possible, changing the string for the sake of a single note." ${ }^{99}$ From studying Galamian's editions, he appeared to agree with this statement. His fingering of the first excerpt in chapter three regarding this topic is puzzling since his fingerings show that he clearly agreed with both of Flesch's above statements. Nevertheless, Galamian's fingering has c-sharp ${ }^{2}$ as the only note on the A string in this excerpt. Both fingerings applied to the remaining excerpts in this section have same aim, to avoid crossing to a new string to play only one note.

PART THREE: DOUBLE STOPS AND CHORDS

Conclusions regarding the unison

[^44]The unison is fingered using the first and fourth fingers playing the same note. The fourth finger is placed on the lower of two strings, and the first finger is placed on the upper of two strings.

There is no reasonable alternate fingering for a unison. Paganini has one example in his third caprice that requires a unison double trill in his manuscript. The only possible execution of this double stop would be to play the unison with the first and third fingers while trilling with both the second and fourth fingers. Publications of the caprices have removed the double trill.

Conclusions regarding the second
The second is played with the first and fourth fingers on adjacent strings. There are a handful examples of seconds played with either the first and third fingers or the second and fourth fingers for the sake of voice-leading, but this fingering is an exception to the norm. ${ }^{100}$

## Conclusions regarding the third

Thirds are played with the first and third fingers together, the second and fourth fingers together, or a fingered note with an open string. In many of the excerpts concerning thirds, Flesch chose fingerings that used the open E string for the lower note of the third. The timbre of the passage remains uniform when using Galamian's

[^45]fingering, with the upper string always used for the upper note. It is rare to find an instance in which Galamian used an open string for the lower note of a third.

The excerpts from Kreutzer's thirty-third caprice and Dont's twelth caprice show examples of Flesch's fingering using a harmonic for $\mathrm{g}^{1}$. Flesch's fingerings use harmonics often in double stops. Galamian's fingerings tend to avoid using them. It is somewhat rare also to find the use of a harmonic in thirds in the editions of Galamian. Uniform timbre may have been his priority, thus maintaining even timbre by using all fingered notes within a passage.

The excerpts from Paganini's eighteenth caprice and J. S. Bach's C Major Sonata shows an example of Flesch using adjacent fingers for thirds, requiring the left hand to be in an extended or stretched position. It appears that Flesch advised these when he thought it necessary to prepare for an upcoming fingering issue; in this case the issue is shifting less if the extended fingering is used. Galamian used these kinds of stretches for thirds in his technique book, but rarely are they found in his editions of the violin literature. ${ }^{101}$ Some may believe that this fingering for thirds can be seen as preferable in some circumstances. Although more notes can be reached, this extension technique brings the left hand out of a position, and while some may prefer it others may find that this stretching causes discomfort. It may affect sound, intonation, and rhythm also in a negative way.

[^46]A contracted fingering using the fourth and first fingers should be used for a third to prevent oblique or parallel crossings. The example from the Chaconne of J. S. Bach illustrates this use.

The last excerpts in chapter three concerning thirds focus on answering the question of when to shift in relation to a dotted rhythm. Both pedagogues agreed that the shift is to be executed after the long note and preceding the short note. 0

Conclusions regarding the sixth
The traditional fingering for sixths has the violinist use adjacent fingers, as shown in the first example. However, other fingerings can be used to eliminate some problems that tend to occur when playing sixths. The second and third excerpts in chapter three regarding this topic show a contracted fingering used to avoid an oblique crossing with the third finger. The excerpt from Bach's C Major fuga illustrates an example of minor sixths separated by a whole step. The fingerings of both Flesch and Galamian are in agreement. The first sixth is to played with the first and second fingers, and the next sixth is to be played with the third and fourth fingers. The next excerpt in chapter three regarding sixths concerns the fingering of major sixths separated by a half step. In this case, the first sixth is fingered with the first and third fingers, and the next is fingered with the second and fourth fingers. The purpose of these fingerings, for both minor sixths and major sixths a step apart, is to avoid any oblique crossing of the fingers of the left hand.

The next excerpt in chapter three concerning sixths focuses on the specific scenario of a sixth following a tritone. As stated above, Flesch shifts to a lower position for the sixth to avoid an oblique crossing. Although Galamian's fingering often follows this same tendency, it does not in this excerpt, probably due to the bow change. As has been seen previously, Galamian has a tendency to disregard even his own fingering rules if a bow change will hide any unwanted sound from an oblique crossing. The example from the Bach Chaconne is similar. Flesch's fingering has the left hand shift to a higher position to avoid an oblique crossing. In his edition, the eighth notes are slurred together. If the violinist chooses to add this slur, then Flesch's advice is worth considering even though the slur it is not in the manuscript. Galamian's bowing strictly follows the manuscript; therefore, he may have argued that the bow change would hide any unwanted noise of an oblique crossing.

A discussion of Paganini's twenty-first caprice is necessary. Its first section is comprised principally of sixths and creates an important issue is moving from one sixth to the next. The best possible fingering solutions need to be found to eliminate any audible oblique crossings and distracting glissandi. Inaudible oblique or parallel crossings while playing sixths are possible; for instance, the figure below can be played with either of the following two fingering:

Fingering No. 1: $\quad(12)(34)(23)$


Fingering No. 2
(12)(34)(34)

Though the second fingering has an audible glissando between the last two sixths, it will not distract from the musical line if the violinist keeps a heavy bow weight and slows down the bow during the shift. Similarly, the following two fingers are possible for the excerpt below, taken from the same caprice.

Fingering No. $1 \quad(12)(12)$


Fingering No. 2
(12)(23)

Both pedagogues use each type of fingering in different parts of this caprice, either using different fingers or the same fingers with a glissando. The important considerations are to avoid audible oblique crossings or distracting glissandi.

Conclusions regarding mixing thirds and sixths
Flesch's priority was to avoid oblique or parallel crossings when playing double stops. He stated that these can be avoided with either mixing positions or changing positions. ${ }^{102}$ This practice is shown in his fingering decisions in all excerpts concerning this topic. Galamian chose not to avoid of the oblique crossings in many of these excerpts. It may be presumed that he expected the student to execute his fingering without any unwanted sounds. Several excerpts deserve additional consideration. In the excerpt of Rode's fifteenth caprice, there is an articulation consideration. Staccato markings are indicated over each double stop; therefore, they are separated by the

[^47]slightest of silence. Apparently Galamian judged this silence to be enough time to inaudibly make the parallel crossing. In Dont's twenty-fourth caprice, Flesch's fingering mixes positions on the third that succeeded the sixth to avoid another oblique crossing. Galamian's did not. It should be noted that in this excerpt these double stops are slurred. As a result there is no silence to execute the inaudible oblique crossing as in the previous excerpt. It may be surmised that Galamian expected the violinist to perform the crossing with no extraneous noise. In the last of the excerpts concerning the mixture of thirds and sixths, Flesch's fingering avoids all oblique or parallel crossings while Galamian's avoids only the first of several. Flesch found it necessary to find a fingering that avoided as many oblique or parallel crossings as possible. Galamian apparently did not feel the need to avoid these when mixing thirds and sixths so long as no unwanted sounds were heard.

Conclusions regarding the fourth
The central concern for Flesch was to avoid oblique or parallel crossings. ${ }^{103} \mathrm{His}$ fingerings often have the violinist shift to a new position, avoiding the parallel crossing created by the left hand remaining in position when arriving to the fourth. Galamian's fingering does not avoid this parallel crossing, perhaps because it may be possible for the bow change to hide any unwanted noise created by the parallel crossing.

Both pedagogues agreed that either the first and second fingers or the second and third fingers were more favorable for fingering augmented fourths than the third

[^48]and fourth fingers. However, the excerpt from Bach's C Major Sonata shows that Galamian used the third and fourth fingers if the same interval is broken rather than played as a double stop.

Conclusions regarding the fifth
Flesch stated that perfect fifths should not be played with the third finger. ${ }^{104}$ Galamian's fingerings seem to show that for the most part he agreed with Flesch. However, there is at least one occurrence in which his editions use the third finger for this interval. ${ }^{105}$ It can be surmised that this is because the first and second fingers have more width to play both strings simultaneously. If the fifth is broken as in the excerpt from Kreutzer's thirty-first caprice, Galamian's fingering uses the third finger for both notes while Flesch's uses the first finger (still apparently avoiding the third finger).

The excerpts from Kreutzer's thirty-fifth caprice and Paganini's fourth caprice illustrate the difference between Flesch's and Galamian's usage of harmonics to finger fifths. While Flesch's fingering uses harmonics for fifths, Galamian's does not. It was perhaps a timbral issue. Galamian fingerings shy away from harmonics within a fingered passage to keep similar timbre because of the overtones created when the string is pressed down to the fingerboard. His fingerings in double stopped passages seem to follow the same pattern.

[^49]The last excerpt in chapter three concerning fifths, from Kreutzer's twentyeighth caprice, concerns the execution of broken fifths. As stated above, Flesch's fingering uses different fingers for the fifth, presumably because he wanted the third finger to remain on $\mathrm{g}^{1}$ throughout the passage. Galamian's fingering has the third finger cross in a parallel fashion for $\mathrm{c}^{1}$.

Conclusions regarding the seventh

The common fingerings for the seventh are either with the first and third fingers or with the second and fourth fingers. The priority is to avoid oblique or parallel crossings when at all possible.

When the oblique or parallel crossing cannot be avoided with the common fingering, the violinist should choose an alternate fingering. An extended fingering, using adjacent fingers, is shown in the excerpt from Kreutzer's thirty-second caprice. A contracted fingering is shown in the excerpt from J. S. Bach's E Major Partita.

## Conclusions regarding the octave

The first and fourth fingers are commonly used for octaves. They will be called uniform octaves for the sake of this discussion. However, alternate fingerings are often used for a variety of reasons. The first and third fingers are used if the octave immediately follows the use of the fourth finger or if the octaves are in higher positions. Extended fingers, either the first and third fingers or the second and fourth fingers, are
used to avoid oblique or parallel crossings, such as those found in the excerpt from Paganini's twelth caprice.

The use of fingered octaves is reserved for clarity, alternating between the first and third fingers and the second and fourth fingers for successive octaves. In the excerpt from Paganini's third caprice, the passage is very quick, and clarity must be achieved. This can be done only with fingered octaves in a passage of octaves contained within one bow. However, Galamian's fingerings rarely utilize fingered octaves if the passage is not scalar and within one bow. This fingering tendency is shown the excerpts from Paganini's fourth caprice, and Rode's nineteenth caprice. This is a primary difference between pedagogues' fingerings in the use of fingered octaves. Flesch's fingerings often use mixed octaves, the combination of fingered and uniform octaves, to eliminate some glissandi. Galamian's fingerings often do not combine them. Examples are the second excerpt from Paganini's third caprice and from his twenty-fourth caprice. In the excerpt from Paganini's twenty-third caprice, Galamian's fingering uses mixed octaves in the scalar passage within the slur. The only compared excerpt in which Galamian supplied fingered octaves in unslurred passages is from Paganini's seventeenth caprice, likely because of the very fast speed at which this caprice is performed.

Flesch's termed "camouflaged octaves" describes broken octaves that are not fingered as such. His fingering of the excerpt from Kreutzer's seventeenth caprice creates camouflaged octaves since these octaves are not fingered as uniform octaves. This is due to a shift within each pitch class. Broken octaves are one of the few
instances in which Galamian chooses to use the same fingering for broken double stops as he would if the same notes were played simultaneously.

Conclusions regarding the tenth

Tenths are played with the first and fourth fingers. In his treatise, Flesch included discussion about preparing the left hand for the extension required to play the tenth. ${ }^{106}$ This preparation is by playing the preceding note, double stop, or chord with a variety of different fingerings, depending upon the circumstances. A sixth before a tenth is played with either the first and second fingers or the second and third fingers. Often in Flesch's editions, a third before a tenth is played with adjacent fingers to extend the left hand prior to the execution of the tenth. Galamian's editions do not have the third fingered in this way to prepare for the following tenth. However, when an octave precedes the tenth, both pedagogues used a stretched fingering for the octave-using either the first and third fingers or the second and fourth fingers.

## Conclusions regarding chords

Many of the above guidelines of each pedagogue are applied to the fingering of chords. In the first excerpt of Dont's eleventh caprice, only Flesch's fingering prepares the hand early for the chord, a guideline his fingerings often follow. However, in the second excerpt, both pedagogues' fingerings arrive early in the half position to prepare for the chord. In the excerpt from J. S. Bach's C Major fugue, both fingerings use the

[^50]half position for the four note chord which avoids the oblique crossing of the first finger. In the other excerpts, oblique or parallel crossings are often avoided if possible. In the most of the excerpts with chords, Flesch avoided using the third finger for perfect fifths. Galamian did not always do this. In the third excerpt in chapter three concerning this topic, Galamian's fingering uses a half- step shift while Flesch's does not. This creates more supporting evidence that Galamian may have had a larger hand, especially in the fingering of the seventh which ends the excerpt. Flesch fingered it with the first and third fingers while Galamian fingered it with adjacent fingers. The second excerpt from Adagio from J. S. Bach's C Major illustrates the Flesch's tendency to finger the lower note of a third with an open string. As in the excerpts of thirds, Galamian did not follow this practice. In the excerpt from J. S. Bach's Chaconne, both pedagogues fingered a minor triad with the fourth, second, and first fingers, in order of ascending notes. By contrast, a major chord is played with the fourth, third, and first fingers (in order of ascending notes). A diminished chord with a tritone on the bottom and a sixth on the top is fingered with the second, first, and third fingers. This usage is identical to the same chord when broken.

Conclusions regarding the breaking of chords
Chords can either be rolled in a slow manner or more quickly. The first two excerpts from chapter three concerning this topic contain chords that are slowly rolled. Both pedagogues' fingerings use the same finger more than once in the chords. The foremost reason for this fingering choice is for comfort; any other fingering would force
the left hand into an uncomfortably contracted configuration. In the third excerpt from chapter three concerning this topic, Galamian's fingering did not reuse a finger as Flesch's does. Because Galamian chose to cross fingers to play two notes if the chord were to be rolled slowly, it is possible that he intended for this chord to be rolled faster. Therefore he determined that there was not enough time to cross the second finger for two notes.

Flesch discussed what he termed artificial chords, in which a chord finger can be created with a note and its accompanying grace notes. Galamian's fingering places all of these notes on one string, making it impossible for the violinist to finger them as a chord.

## Conclusions regarding artificial chords

In the excerpts regarding this topic that have fingerings that may be compared to each other, Flesch created an artificial chord, turning grace notes and their accompanying note into a chord on three different strings. Galamian did not choose this fingering when given the option.

## PART FOUR: FINGERING AS A MEANS OF EXPRESSION

Conclusions regarding timbre
Flesch begins his discussion of this topic with an explanation of the important considerations when choosing a fingering. According to Flesch, conforming to the mood and character of music is the most important issue to consider; no fingering can distract
from composer's intentions. ${ }^{107}$ The fingerings that can be compared concern the works for solo violin by J. S. Bach. There is a difference of sound concept in the fingerings of Flesch and Galamian. Flesch's fingering produces a long melody that continues for an extended time. His fingerings try to keep the melody on one string for as long as possible. Galamian's fingering use more string crossings and remain in lower positions, producing a more motivic rendition of the melody with separate voices. It is possible that Galamian believed that this was more faithful to period performance of the time of J. S. Bach, with less shifting and the aural separation of voices using different strings. This may be only a subjective issue since there is no written explanation from J. S. Bach. The question of using more uniformity of timbre or more diversity of timbre can be answered only by each violinist's personal sound concept. It is a generally known fact that Paganini was the discoverer of sul $G$ playing, keeping an entire melody on the $G$ string. If this is indeed the case, it is questionable whether it is appropriate to play the works of Bach in this manner, as it creates a virtuosic, brilliant sound that some would term romantic playing.

Conclusions regarding choice of string
Each string on the violin has its own unique character, and Flesch attempted to explain the difference of each string. He characterized the D string for its "intimate charm," the E string for is radiance, and the G string for its heroic sound. ${ }^{108}$ Its power

[^51]can carry through powerful bodies such as the full orchestra. The first six excerpts show Flesch's tendency to use the G string heavily in the works for solo violin by J. S. Bach. As briefly reviewed in chapter two, this practice became a commonly used technique after the time of Bach, and was made popular by Paganini. Therefore it may be questionable whether it is appropriate to play the works for solo violin by J. S. Bach in this manner. However, it is clear that Flesch's fingering produces the virtuosic, brilliant sound that he apparently desired.

Flesch wrote that the higher positions on the A string are to be used when the radiant sound of the E string is unsuitable. ${ }^{109}$ The last two excerpts in chapter three concerning this topic show his tendency toward shifting into the higher positions to avoid the E string. These excerpts, being from the works for solo violin of J. S. Bach, show Galamian's tendency also to finger them in lower positions and to have the violinist change strings more often. Galamian did not discuss the individual characteristics of the sound of each string in his treatise.

## Conclusions regarding open strings in cantilena

Flesch stated, "...while occasionally effective in rapid passages, [open strings] should be used in cantilena as little as possible, since they lack expressive power." ${ }^{110}$ In the excerpts concerning this topic, Flesch adhered to his own advice. Galamian's fingerings in these excerpts sometime make use of the open string in cantilena passages.

[^52]In the excerpt from Rode's fourth caprice, the $\mathrm{e}^{2}$ that begins the passage is within the melodic line, thus Flesch and Galamian agree that the need for character and expression negate the possible use of the open string on such a note that must be held. However, in the last two excerpts of this topic, Galamian's fingering makes use of the open string extensively, including a long trill in the excerpt from Largo from J. S. Bach's C Major Sonata.

Conclusions regarding harmonics in cantilena
Flesch wrote that harmonics are appropriate if the musical passage necessitates a certain character. ${ }^{111}$ This character can be glassy, lifeless, cold, of similar emotion if in cantilena, or as in the example from Bach's Chaconne, it can be of a bell-like quality. Galamian's editions use harmonics less than Flesch's, and this example demonstrates this contrast.

Conclusions regarding the use of the third finger at a musical climax
Flesch often did not use the fourth finger to play the musically climactic note of a phrase, especially when this climax is a sustained emotional note. ${ }^{112}$ While Flesch stated that some fingers had different strengths than others, it may be inferred from studying the editions of Galamian that he wanted the violinist to be able to use all fingers equally. In the excerpt from Brahms's A Major Sonata, Flesch's fingering uses

[^53]the third finger for the climactic note while Galamian's uses the fourth. It may be true that instead of accepting what could not be done immediately, Galamian wanted the violinist to acquire the technique to execute what he thought the most desired fingering. In the excerpt from Bruch's Scottish Fantasy, both fingerings have the violinist use the third finger for e-flat ${ }^{4}$, a note that is extremely high on the fingerboard.

Conclusions regarding the change of fingers

The given example shows how Flesch used a different finger when a note was repeated. Galamian also clearly stated in his treatise that if a note is repeated, a finger substitution is necessary. ${ }^{113}$ The fact that he chose not to follow his own guideline in this excerpt is puzzling. In this case, perhaps Galamian believed that it was possible to produce a different sound and vibrato but continue to use the same finger.

## Conclusions regarding voice-leading

Although there is a discrepancy between the pedagogues regarding the performance practice of Bach's solo violin works, both pedagogues often use fingerings that show voice- leading. In the performance of these works, Flesch's fingering has the left hand shift often into higher positions. His fingerings tend to keep the melodic segment longer on one string than does Galamian. Galamian's fingerings often keep the left hand in lower positions, forcing more frequent string crossings. However, both fingerings are often chosen to finger melodic segments on one string thereby producing

[^54]uniform timbre. In addition, similar segments of the same excerpt often are on the same string the second time, aurally designating them as similar.

Galamian's fingerings always use all four strings for four- note chords. In the compared excerpts above, Flesch did not use all strings to keep the melody on one string.

## Conclusions regarding Portamenti

Flesch attempted to illustrate the circumstances for acceptable portamenti in his treatise. It has already been discussed that he disapproved of the half- step shift within a slur unlike Galamian whose fingerings utilize this technique extensively. However, the example from Brahms third sonata shows that Flesch used the half- step shift for a musical expressive reason, thus calling it a portamento. Galamian's fingering does not use it in this case.

In the excerpt from Adagio from J. S. Bach's C Major Sonata, Flesch used an ascending portamento of a third. Galamian did not finger this excerpt in this manner. According to the excerpt, from Rode's seventh caprice, Flesch did not use a portamento if the shift preceded the emotional climax of the phrase.

It may be said, based on the excerpts concerning this topic, that Flesch often used a portamento to reach the climactic note of a phrase. It is possible that he thought the resulting sound created a more emotional climax than one with no portamento. From studying the body of Galamian's editions and as shown in the excerpts concerning this topic, his fingerings often do not have the violinist executing a portamento to reach
the emotional climactic note of the phrase. It can be said also that audible shifts are found more often in Galamian's editions from the repertoire of the romantic era. Though his treatise shows that he always expected a modern bow technique, his fingerings in works from the baroque era have fewer portamenti than his fingerings from the romantic era.

## Conclusions regarding trills

Flesch advises performers to use whatever fingers will execute the trill most clearly. ${ }^{114}$ A rare exception is found in the excerpt from Adagio from J. S. Bach's C Major Sonata shows Flesch's fingering using an open string and first finger to trill. Both pedagogues used the third and fourth fingers to execute the exceptionally high trill in Paganini's ninth caprice. Galamian did not approach a discussion regarding trills in his treatise.

Final Conclusions
It is necessary for the violinist to make decisions regarding fingerings. He/she can do this based on two main factors: 1) Personal sound concept, and 2) Comfort. Often, these two factors can be related and combined. The violinist's comfort has a direct impact on the produced sound and the mechanics of vibrato.

It has been inferred that Flesch's left hand may have been smaller than Galamian's. The difference of hand size has a direct impact on the violinist's fingering

[^55]choice. Several of the above excerpts in which Galamian apparently felt comfortable stretching rather than shifting were fingered by Flesch using shifting rather than stretching. It is possible that because Flesch felt more comfortable shifting if his hands were indeed smaller, he also produced the sound he desired.

This study can be used by the violinist to make fingering decisions, and hand size can be one issue that determines the best fingering. The violinist with a larger hand may have the tendency to use fingerings similar to those of Galamian, while the violinist with smaller hands may feel more comfortable using those of Flesch. The concise guidelines included in the Appendix, an abridged summation of conclusions reached above, can be a quick reference guide for the violinist wishing guidance in making fingering decisions.

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## APPENDIX A

## A SUMMATION OF GUIDELINES FOLLOWING THE FINGERINGS OF EACH PEDAGOGUE

The chart below is only a brief summation of conclusions from chapter four to be quickly
referenced if necessary. Some guidelines are slight generalizations. For a full explanation, consult both the excerpts and conclusions for the topic given below.

PART ONE: POSITIONS

| FINGERING TOPIC | GUIDELINE FOLLOWING THE <br> FINGERINGS OF FLESCH | GUIDELINE FOLLOWING THE <br> FINGERINGS OF GALAMIAN |
| :--- | :--- | :--- |
|  | Use fourth finger, if possible | Use open string, if possible |
| FIRST POSITION | Do not use a half- step shift, <br> especially within a slur | Use the half- step shift within <br> a slur or an articulated <br> passage |
|  | Do not use two half step shifts <br> consecutively | Do not use two half- step <br> shifts consecutively |
|  | The half position requires true <br> shift | The half positions requires a <br> true shift |
|  | Avoid fingering the interval of <br> a minor third or the <br> enharmonic equivalent with <br> adjacent fingers | Finger the interval of a minor <br> third or the enharmonic <br> equivalent with adjacent <br> fingers |
|  | Avoid oblique crossings of the <br> left fingers as often as <br> possible | Avoid oblique crossing of the <br> left fingers if notes are played <br> consecutively or <br> simultaneously |
| SECOND POSITION | Avoid forward stretches with <br> the fourth finger as much as <br> possible | Avoid some forward stretches <br> with the fourth finger |
|  | Use the second position to <br> avoid excessive shifting <br> between the first and third <br> positions | Use the second position to <br> avoid excessive shifting <br> between the first and third <br> positions |
| Use the second position to | Use the second position to <br> avoid crossing to a new string <br> to play one note |  |
| Haoid crossing to a new string |  |  |
| to play one note |  |  |


|  | Choose fingerings with more <br> string crossings and restez in <br> higher positions for better <br> intonation | Choose fingerings with more <br> shifting and fewer string <br> crossings to utilize the strong <br> radiance of the timbre of the <br> E string |
| :--- | :--- | :--- |
|  | A sforzando has more power if <br> fingered in higher positions on <br> the G string | A note fingered in a lower <br> position on the D string can <br> have sufficient power for a <br> sforzando |
| ENHARMONIC CHANGES | Change a diminished third to a <br> major second, using adjacent <br> fingers | Change a diminished third to a <br> major second, using adjacent <br> fingers |
|  | Change a diminished seventh <br> to a major sixth, using <br> adjacent fingers | Change a diminished seventh <br> to a major sixth, using <br> adjacent fingers |
|  | Finger passages <br> enharmonically for ease of <br> playing and key <br> comprehension | Finger passages <br> enharmonically for ease of <br> playing and key <br> comprehension if they cannot <br> be learned in their original <br> fingering |
| MIXING POSITIONS | Mix positions to avoid oblique <br> crossings | Avoiding oblique crossings is <br> necessary only when <br> pertinent notes are played <br> consecutively or <br> simultaneously |
|  | For the interval of a broken <br> minor third played on two <br> different strings, use the <br> fourth finger on the lower <br> string and the first finger on <br> the higher string, mixing <br> positions to alleviate an <br> uncomfortable stretch | minor third played on two <br> different strings, use the <br> traditional fingering of either <br> the third and first fingers or <br> the fourth and second fingers |

PART TWO: SHIFT OF
POSITIONS

| DIATONIC SCALES | Shift between the strong <br> beats | Shift on the strong beats |
| :--- | :--- | :--- |
| CHROMATIC SCALES | Use "newer" chromatic <br> fingering that does not use <br> any half- step shifts | Use "newer" chromatic <br> fingering that does not use <br> any half- step shifts |
| BROKEN TRIADS | Use the first, second, and <br> fourth fingers for a broken <br> minor triad | Use the first, second, and <br> fourth fingers for a broken <br> minor triad |


|  | When playing an arpeggio, do not use the same finger for two consecutive notes | When playing an arpeggio, shift by playing two consecutive notes with the same finger |
| :---: | :---: | :---: |
|  | Use the first, second, and fourth fingers for fingering a triad in first inversion. | Use the first, third, and fourth fingers for fingering a triad in first inversion. |
| BROKEN SEVENTH CHORDS | If playing the top three notes of a half- diminished seventh chord, use the first, second, and fourth fingers | If playing the top three notes of a half- diminished seventh chord, use the first, second, and fourth fingers |
|  | If playing an ascending fully diminished seventh chord, use the fourth, second, first, and third fingers to avoid oblique crossings. If playing a descending fully diminished chord, use the opposite fingering | If playing an ascending fully diminished seventh chord, use the fourth, second, first, and third fingers to avoid oblique crossings. If playing a descending fully diminished chord, use the opposite fingering |
|  | When choosing a fingering for a broken diminished seventh chord that has a major sixth interval between the bottom two notes and a tritone interval between the top two notes, use the first, third, and second fingers (in ascending order) | When choosing a fingering for a broken diminished seventh chord that has a major sixth interval between the bottom two notes and a tritone interval between the top two notes, use the first, third, and second fingers (in ascending order) |
|  | When choosing a fingering for a broken diminished seventh chord that has a tritone interval between the bottom two notes and a major sixth interval between the top two notes, use the second, first, and third fingers (in ascending order) | When choosing a fingering for a broken diminished seventh chord that has a tritone interval between the bottom two notes and a major sixth interval between the top two notes, use the second, first, and third fingers (in ascending order) |
|  | Avoid oblique crossings if possible | Avoid oblique crossings if notes are played consecutively or simultaneously |
| FORWARD STRETCHES | Avoid a forward stretch with the fourth finger in first position | Use a forward stretch with the fourth finger in first position |


|  | Shift to finger the interval of a broken tenth rather than stretch if possible | Stretch to play the interval of a broken tenth if possible |
| :---: | :---: | :---: |
|  | Use a harmonic to alleviate the uncomfortable stretch of a tenth if in a faster tempo | Use a harmonic to alleviate the uncomfortable stretch of a tenth if in a faster tempo |
|  | Use the second finger for a forward stretch to eliminate unnecessary glissandi in slower tempos | Glissandi in slower tempos are acceptable |
| BACKWARD STRETCHES | Use backward stretches to eliminated unwanted glissandi | Use backward stretches to eliminated unwanted glissandi |
| CREEPING INTO POSITION | Use this shifting technique to eliminate any unwanted glissandi | Use this shifting technique to eliminate any unwanted glissandi. This is a central issue in Galamian's edition of the Sonatas and Partitas for solo violin by J. S. Bach |
| GLISSANDI | In descending scalar passages, choose a fingering that has the left hand shift between two notes a half step apart | In descending scalar passages, choose a fingering that has the left hand shift between two notes a whole step apart |
|  | The same scale fingerings should always be used | It is important to vary scale fingerings |
|  | Do not play two consecutive scalar notes with the same finger | Do not play two consecutive scalar notes a whole step apart with the same finger |
|  | Do not play two consecutive notes in an arpeggiated figure with the same finger | If it is necessary to shift in an arpeggiated figure, use the same finger to play two consecutive notes |
|  | Avoid the half-step shift. Instead use different fingers when shifting between two notes a half-step apart | Use the half- step shift |
| USING OPEN STRINGS TO SHIFT | Use an open string to shift when possible | Use an open string to shift when possible |
|  | If a string crossing to an open string is in the opposite direction of the musical line, it is still acceptable to use it to shift | Do not cross strings in the opposite direction of the line. If this excludes using an open string to shift, another fingering must be found |
| USING HARMONICS TO SHIFT | Use harmonics when possible and musically acceptablethey assure better intonation | Do not use harmonics in fingered passages. The timbral change is musically unacceptable |

$\left.\begin{array}{|l|l|l|}\hline \text { USING THE BOW TO SHIFT } & \begin{array}{l}\text { Change the bow to facilitate in } \\ \text { clarity. For example, a bow } \\ \text { change is necessary when } \\ \text { crossing from the G string to } \\ \text { the E string }\end{array} & \begin{array}{l}\text { Change the bow to facilitate in } \\ \text { clarity. For example, a bow } \\ \text { change is necessary when } \\ \text { crossing from the G string to } \\ \text { the E string }\end{array} \\ \hline \begin{array}{l}\text { DECIDING THE APPROPRIATE } \\ \text { TIME TO SHIFT }\end{array} & \begin{array}{l}\text { Shift before the end of one } \\ \text { phrase to prepare to begin } \\ \text { another }\end{array} & \begin{array}{l}\text { End a phrase before shifting } \\ \text { to begin a new one }\end{array} \\ \hline \text { THE RETENTION OF FINGERS } & \begin{array}{l}\text { Retain fingers on the string if } \\ \text { there is a decided technical } \\ \text { advantage regarding } \\ \text { intonation }\end{array} & \begin{array}{l}\text { No conclusion can be reached } \\ \text { regarding this subject }\end{array} \\ \hline \text { PARALLEL FINGERING } & \begin{array}{l}\text { Use parallel fingering when } \\ \text { melodic segments are } \\ \text { intervalically similar or } \\ \text { identical-memorization is } \\ \text { facilitated by this fingering } \\ \text { technique }\end{array} & \begin{array}{l}\text { Use parallel fingering } \\ \text { sparingly. Musical timbre } \\ \text { should be the first } \\ \text { consideration }\end{array} \\ \hline \text { CHANGE OF POSITION BY } & \begin{array}{l}\text { If the leap to a new position } \\ \text { can coincide with a bow } \\ \text { change, this aids in its } \\ \text { execution }\end{array} & \begin{array}{l}\text { If the leap to a new position } \\ \text { can coincide with a bow } \\ \text { change, this aids in its } \\ \text { execution }\end{array} \\ \hline \text { LEAPING } & \begin{array}{l}\text { The use of an intermediary } \\ \text { note aids in leaping to a } \\ \text { higher position }\end{array} & \begin{array}{l}\text { No conclusion can be reached } \\ \text { regarding this subject }\end{array} \\ \hline \text { A shift connected to a } \\ \text { previous note or a shift in } \\ \text { preparation is preferable to } \\ \text { leaping }\end{array} \quad \begin{array}{l}\text { Leaps should be used often } \\ \hline \text { CHOOSING TO CHANGE } \\ \text { The note after a shift is } \\ \text { somehow connected to what } \\ \text { occurs before the shift }\end{array} \quad \begin{array}{l}\text { Avoid changing strings to play } \\ \text { only one note. Shift if } \\ \text { necessary }\end{array} \quad \begin{array}{l}\text { The note after a shift is } \\ \text { independent of what happens } \\ \text { before the shift } \\ \text { Avoid changing strings to play } \\ \text { necessary note. Shift if }\end{array}\right\}$

PART THREE: DOUBLE STOPS
AND CHORDS

| THE UNISON | Use the first and fourth <br> fingers | Use the first and fourth <br> fingers |
| :--- | :--- | :--- |
| THE SECOND | Use the first and fourth <br> fingers | Use the first and fourth <br> fingers |
| THE THIRD | Use the first and third fingers <br> or the second and fourth <br> fingers | Use the first and third fingers <br> or the second and fourth <br> fingers |


|  | It is acceptable to use an open string for the lower note of the third | Always play the upper note of the third on the upper of two strings used |
| :---: | :---: | :---: |
|  | If it is possible, the use of a harmonic in a third is acceptable and advised to assure good intonation | Do not use harmonics in thirds |
|  | To prepare for a large stretch, use adjacent fingers in an extended position to prepare for the stretch | Do not prepare early for a stretch. Finger the third using conventional fingering |
|  | Use a contracted fingering (using the fourth and first fingers) to avoid oblique or parallel crossings | Use a contracted fingering (using the fourth and first fingers) to avoid oblique or parallel crossings |
|  | If a dotted rhythm requires a shift, shift after the dotted note and before the short note of the figure | If a dotted rhythm requires a shift, shift after the dotted note and before the short note of the figure |
| THE SIXTH | Use adjacent fingers | Use adjacent fingers |
|  | If two consecutive minor sixths are a whole step apart, play the first sixth with the first and second fingers and the second sixth with the third and fourth fingers | If two consecutive minor sixths are a whole step apart, play the first sixth with the first and second fingers and the second sixth with the third and fourth fingers |
|  | If two consecutive major sixths are a half step apart, play the first sixth with the first and third fingers and the second sixth with the second and fourth fingers | If two consecutive major sixths are a half step apart, play the first sixth with the first and third fingers and the second sixth with the second and fourth fingers |
|  | If a sixth follows a tritone, shift to avoid an oblique or parallel crossing. | If a sixth follows a tritone, shift to avoid an oblique or parallel crossing. However, if there is a bow change that coincides with the sixth, the oblique or parallel crossing does not need to be avoided |
|  | Paganini's twelth caprice has glissandi and oblique or parallel left finger crossings. Both are unavoidable | Paganini's twelth caprice has glissandi and oblique or parallel left finger crossings. Both are unavoidable |


| MIXING THIRDS AND SIXTHS | Oblique or parallel crossings can be avoided by mixing positions or changing positions | It is not necessary to always avoid all oblique or parallel crossings. If double stops are articulated, the silence in between negates the need to avoid them. It is also possible to execute oblique or parallel crossings in these mixtures without creating unwanted sounds |
| :---: | :---: | :---: |
| THE FOURTH | Change positions to avoid oblique or parallel crossings | It is necessary to avoid oblique or parallel crossings only if a bow change is not present to eliminate unwanted sounds |
|  | For augmented fourths, use either the first and second fingers or the second and third fingers | For augmented fourths, use either the first and second fingers or the second and third fingers. If the fourth is broken interval, the third and fourth fingers may be used |
| THE FIFTH | A perfect fifth should be played with either the first or second finger. The third finger should not be used | A perfect fifth should be played with either the first or second finger. It is also possible to use the third finger if considered advantageous |
|  | If the fifth is broken, the first or second finger should still be used | If the fifth is broken, the first, second, or third finger may be used |
|  | Harmonics may be used to play fifths | Harmonics may not be used to play fifths |
|  | If the fifth is broken, different fingers should not be used to avoid an oblique or parallel crossing | If the fifth is broken, the same finger may be used, executing an oblique or parallel crossing |
| THE SEVENTH | Use either the first and third fingers or the second and fourth fingers | Use either the first and third fingers or the second and fourth fingers |
|  | An extended or contracted fingering should be used to avoid oblique or parallel crossings | An extended or contracted fingering should be used to avoid oblique or parallel crossings |
| THE OCTAVE | Use the first and fourth fingers | Use the first and fourth fingers |


|  | Use the first and third fingers <br> if the fourth finger is used <br> immediately before the <br> octave | Use the first and third fingers <br> or if the fourth finger is used <br> immediately before the <br> octave |
| :--- | :--- | :--- |
|  | Use the first and third fingers <br> if the octave is in a higher <br> position | Use the first and third fingers <br> if the octave is in a higher <br> position |
|  | Use an extended fingering to <br> avoid oblique or parallel <br> crossings | Use an extended fingering to <br> avoid oblique or parallel <br> crossings |
|  | Use fingered octaves in scalar <br> passages within one bow, <br> when there is a succession of <br> two double stop octaves <br> slurred that are a half step <br> apart, and in arpeggiated <br> octaves both played broken <br> and as double stops | Use fingered octaves within <br> scalar passages within one <br> bow only |
|  | Use mixed octaves in <br> Paganin's seventeenth <br> caprice because of the <br> necessary fast speed that <br> must be achieved | Use mixed octaves in <br> Paganini's seventeenth <br> caprice because of the <br> necessary fast speed that <br> must be achieved |
|  | Use camouflaged octaves in <br> passages that have broken <br> octaves in a scalar manner | Finger broken octaves using <br> the same fingering as octaves <br> played as double stops-with <br> the first and fourth fingers |
| CHORDS | Use the first and fourth <br> fingers | Use the first and fourth <br> fingers |
| THE TENTH possible, prepare the left | No preparation is necessary <br> for the tenth, except when an <br> hand for the tenth by playing <br> the preceding note or double <br> octave precedes the tenth- <br> use an extended fingering <br> with the first and third fingers <br> or the second and fourth <br> fingers |  |
| extended position |  |  |


|  | The fourth, second, and first <br> fingers should be used for a <br> minor triad (in order of <br> ascending notes) | The fourth, second, and first <br> fingers should be used for a <br> minor triad (in order of <br> ascending notes) |
| :--- | :--- | :--- |
|  | The fourth, third, and first <br> fingers should be used for a <br> major triad (in order of <br> ascending notes) | The fourth, third, and first <br> fingers should be used for a <br> major triad (in order of <br> ascending notes) |
|  | Use the second, first, and <br> third fingers for a diminished <br> chord with a tritone between <br> the two bottom notes and a <br> major sixth between the two <br> top notes | Use the second, first, and <br> third fingers for a diminished <br> chord with a tritone between <br> the two bottom notes and a <br> major sixth between the two <br> top notes |
| THE BREAKING OF CHORDS | Slowly rolled chords may use <br> the same finger more than <br> once for notes within the <br> chord | Slowly rolled chords may use <br> the same finger more than <br> once for notes within the <br> chord |
|  | Quickly rolled chords may not <br> use the same finger more <br> than once for notes within the <br> chord | Quickly rolled chords may not <br> use the same finger more <br> than once for notes within the <br> lhord |
| ARTIFICIAL CHORDS | If possible, grace notes and <br> their accompanying note <br> should be fingered as chords, <br> placing all fingers on the <br> strings at once | Grace notes and their <br> accompanying note should be <br> played on one string |

PART FOUR: FINGERING AS A
MEANS OF EXPRESSION

| TIMBRE | Choose fingerings that create <br> a uniformity of timbre for <br> melodic segments | Choose fingerings that create <br> a uniformity of timbre for <br> melodic segments |
| :--- | :--- | :--- |
|  | Concerning the works for solo <br> violin by J. S. Bach, it is <br> favorable to shift into higher <br> positions and remain on one <br> string longer | Concerning the works for solo <br> violin by J. S. Bach, it is <br> favorable to remain in lower <br> positions and cross strings <br> more often |
|  | The G string produces a heroic <br> sound, the D string produces <br> an intimately charming sound, <br> the E string produces a radiant <br> sound, and the A string is <br> reserved for when the E <br> string's radiance is | Galamian provides no <br> explanation of the individual <br> characteristics of each string |


|  | inappropriate for the composer's intentions |  |
| :---: | :---: | :---: |
| OPEN STRINGS IN CANTILENA | Open strings should not be used when possible because of their lack of expressive power and the ability to use vibrato | Open strings should be used if they suite the character of the musical work |
| HARMONICS IN CANTILENA | Harmonics should be used to convey a glassy or cold character. They also may be used to convey a bell- like character | Harmonics should seldom be used in a lyrical passage |
| THE USE OF THE THIRD FINGER AT A MUSICAL CLIMAX | The third finger should be used instead of the fourth because of its strength and the natural tendency for the vibrato to be rich. This cannot be achieved with the fourth finger | The violinist should learn to produce the same sound with the fourth finger that can be produces with the third finger. The third finger may be used for the climax of the phrase in very high positions |
| THE CHANGE OF FINGERS | Repeated notes should be played with a different finger for a different expressive power | Repeated notes should be played with a different finger for a different expressive power |
| VOICE- LEADING | Melodic segments should have uniform timbre by being played on one string until musically appropriate to change to a different string | Melodic segments should have uniform timbre by being played on one string until musically appropriate to change to a different string |
|  | Similar melodic segments should have the same timbre to aurally designate them for the listener | Similar melodic segments should have the same timbre to aurally designate them for the listener |
|  | Four- note chords should sometimes be played on three strings to keep uniform timbre for the note of the chord that is within the melody | All four strings should be used for four-note chords |
| PORTAMENTI | Though half- step shifts should not be used for a purely technical purpose, a half- step portamento is appropriate if the purpose is to heighten the emotional impact | Half- step shifts are purely a technical tool and should be used often |


|  | An ascending portamento of a <br> third using the same finger <br> intensifies the emotional <br> impact of a phrase | A portamento is not a <br> necessary tool to create an <br> emotional melody. It <br> subtracts from the musical <br> clarity |
| :--- | :--- | :--- |
|  | The portamento should be <br> used to reach the climactic <br> note of the phrase | The portamento should not be <br> used to reach the climactic <br> note of the phrase |
|  | A portamento should be used <br> to reach the climax of the <br> phrase; note before | A portamento is not a <br> necessary tool to create an <br> emotional melody. It <br> subtracts from the musical <br> clarity |
|  | The same fingering techniques <br> should be used for baroque <br> works that are used for <br> romantic works | Baroque works should have a <br> different fingering technique <br> than romantic works, with <br> fingerings in lower positions <br> with an increased change of <br> strings |
| TRILLS | Any fingering should be used <br> to produce a clear trill | Any fingering should be used <br> to produce a clear trill |
|  | A trill between an open string <br> and the first finger should only <br> be used if absolutely <br> necessary | A trill between an open string <br> and the first finger should be <br> used whenever it is <br> appropriate |

## Appendix B

# A LISTING OF EDITIONS USED FOR THIS STUDY THAT ARE PUBLISHED BY THE <br> INTERNATIONAL MUSIC COMPANY, WHICH HAS GRANTED PERMISSION TO REPRINT THE 

FINGERINGS OF IVAN GALAMIAN

SIX SONATAS AND PARTITAS, S. 1001-1006 for Solo Violin
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[^0]:    ${ }^{1}$ Each of the scale systems by Flesch and Galamian is a study of major and minor scales and their accompanying arpeggios. Also included are studies of double stops that include thirds, sixths, octaves, and tenths. Various rhythms are to be utilized during the practicing of these elements. It may be assumed that each pedagogue believed that his published scale system was a comprehensive guide to understanding and successfully executing different types of passage work in the repertoire that may appear in any given rhythm and key.

[^1]:    ${ }^{2}$ Abram Yampolsky, introduction to Principles of Violin Fingering (Oxford University Press, 1967), 1.

[^2]:    ${ }^{9}$ Ibid., 6, quoting Leopold Mozart, A Treatise on the Fundamental Principles of Violin Playing, trans. by Editha Knocker, 2d ed. (Oxford: Oxford University Press, 1985), 132.
    ${ }^{10}$ Ibid., 6, quoting L. Mozart, 132-147.
    ${ }^{11}$ Ibid., 6, quoting L. Mozart, 138.

[^3]:    ${ }^{12}$ Ibid., 7, quoting L. Mozart, 144.
    ${ }^{13}$ Ibid., 8.
    ${ }^{14}$ Ibid., 8-9.

[^4]:    ${ }^{15}$ Ibid., 10.
    ${ }^{16}$ Ibid., 11.
    ${ }^{17}$ Ibid., 12.
    ${ }^{18}$ Ibid., 13.
    ${ }^{19} \mathrm{lbid}$.
    ${ }^{20}$ Ibid., 14.

[^5]:    ${ }^{21}$ Ibid, 18.
    ${ }^{22}$ Ibid.
    ${ }^{23}$ Ibid., 23.

[^6]:    ${ }^{24}$ Ibid., 25.

[^7]:    ${ }^{25}$ Ibid., 37.
    ${ }^{26}$ Ibid., 39.
    ${ }^{27}$ Ibid., 41-43.

[^8]:    ${ }^{28}$ Ibid., 48-50, 60-62.
    ${ }^{29}$ Ibid., 65.
    ${ }^{30}$ Ibid., 71.
    ${ }^{31}$ Ibid., 74.
    ${ }^{32}$ Ibid., 77.

[^9]:    ${ }^{33}$ Ibid., 80-81.
    ${ }^{34}$ Ibid., 84.
    ${ }^{35}$ Ibid., 87-90.
    ${ }^{36}$ Ibid., 91.92.
    ${ }^{37}$ Ibid., 97.
    ${ }^{38}$ Ibid., 99.

[^10]:    ${ }^{39}$ Ibid., 103-104.
    ${ }^{40}$ Ibid., 120.
    ${ }^{41}$ Ibid., 125-128.

[^11]:    ${ }^{42}$ The neck is the thinnest part of the violin, over which the strings pass as they continue from the pegbox to the body of the instrument.
    ${ }^{43}$ Ruggiero Ricci, Ricci on Glissando (Blooomington: Indiana University Press, 2007), 5.

[^12]:    ${ }^{44}$ Ibid., 6-17.
    ${ }^{45}$ Ibid., 22.
    ${ }^{46}$ Ibid., 23-24.
    ${ }^{47}$ Ibid., 24.

[^13]:    ${ }^{48}$ Ibid., 25.

[^14]:    ${ }^{49}$ Joseph Szigeti, Szigeti on the Violin (New York: Dover Publications Inc., 1979), 47-51.
    ${ }^{50}$ Ibid., 53.
    ${ }^{51}$ Ibid., 55.
    ${ }^{52}$ Ibid., 58.

[^15]:    ${ }^{53}$ Ibid., 70.
    ${ }^{54}$ Ibid., 75.
    ${ }^{55}$ Ibid., 87.
    ${ }^{56}$ lbid., 98-126.

[^16]:    ${ }^{57}$ Carl Flesch, Violin Fingering: Its Theory and Practice, adapted by Boris Shwarz (Barrie and Rockliff: London, 1966), 12.

[^17]:    ${ }^{58}$ Flesch, 18.

[^18]:    ${ }^{59}$ Flesch, 25.

[^19]:    ${ }^{60}$ Galamian, 32.

[^20]:    ${ }^{61}$ Flesch, 69.
    ${ }^{62}$ Ivan Galamian and Frederick Neumann, Contemporary Violin Technique, vol. 1 (Galaxy Music Corporation: Boston, 1966), 30-39.

[^21]:    ${ }^{63}$ Flesch, 82.

[^22]:    ${ }^{64}$ Flesch, 113.

[^23]:    ${ }^{65}$ Flesch, 128.

[^24]:    ${ }^{66}$ Flesch, 145.

[^25]:    ${ }^{67}$ Flesch, 152.

[^26]:    ${ }^{68}$ Flesch, 164.

[^27]:    ${ }^{69}$ Flesch, 157.
    ${ }^{70}{ }^{1}$ bid.

[^28]:    ${ }^{71}$ lbid., 311.

[^29]:    ${ }^{72}$ Flesch, 330.

[^30]:    ${ }^{73}$ Flesch, 339.

[^31]:    ${ }^{74}$ Flesch, 349.

[^32]:    ${ }^{75}$ Flesch, 15.
    ${ }^{76}$ Galamian, 32.
    ${ }^{77}$ Ibid.

[^33]:    ${ }^{78}$ Flesch, 17.

[^34]:    ${ }^{79}$ Galamian, 32.

[^35]:    ${ }^{80}$ Flesch, 27.
    ${ }^{81}$ Szigeti, 87.
    ${ }^{82}$ Flesch, 33.
    ${ }^{83}$ Ibid., 35.

[^36]:    ${ }^{84}$ Flesch, 60; Galamian, 32-33.

[^37]:    ${ }^{85}$ Flesch, 67.
    ${ }^{86}$ Flesch, 69.

[^38]:    ${ }^{87}$ One example is in Allemande from the B Minor partita. In the twentieth measure, the fourth beat contains this exact voicing of a fully diminished seventh chord, and Galamian's fingering uses the second, first, and third fingers.
    ${ }^{88}$ Flesch, 82.
    ${ }^{89}$ Ibid., 83.

[^39]:    ${ }^{90}$ Flesch, 102.
    ${ }^{91}$ Ibid.
    ${ }^{92}$ Galamian, 36.
    ${ }^{93}$ Flesch, 111.

[^40]:    ${ }^{94}$ Galamian and Neumann, 30-39.

[^41]:    ${ }^{95}$ Flesch, 121.

[^42]:    ${ }^{96}$ Flesch, 124.
    ${ }^{97}$ Flesch, 128.

[^43]:    ${ }^{98}$ Flesch, 131.

[^44]:    ${ }^{99}$ Flesch, 152.

[^45]:    ${ }^{100}$ One example of this fingering is in Galamian's edition of J. S. Bach's G Minor fugue. In measure seventeen, the second is fingered with the second and fourth fingers because the first finger was used for the note before the second.

[^46]:    ${ }^{101}$ Ivan Galamian and Frederick Neumann, Contemporary Violin Technique, vol. 2 (Galaxy Music Corporation: Boston, 1966), 6.

[^47]:    ${ }^{102}$ Flesch, 193.

[^48]:    ${ }^{103}$ Flesch, 199.

[^49]:    ${ }^{104}$ Flesch, 205.
    ${ }^{105}$ In measure 229 of J. S. Bach's C Major fugue edited by Galamian, the first chord contains a fifth using the third finger.

[^50]:    ${ }^{106}$ Flesch, 250.

[^51]:    ${ }^{107}$ Flesch, 280.
    ${ }^{108}$ Ibid., 299.

[^52]:    ${ }^{109}$ Flesch, 299.
    ${ }^{110}$ Flesch, 305.

[^53]:    ${ }^{111}$ Flesch, 308.
    ${ }^{112}$ Ibid., 317.

[^54]:    ${ }^{113}$ Galamian, 36.

[^55]:    ${ }^{114}$ Flesch, 371.

