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GIESY, MARYA HANNUM

A STUDY OF THE SIMILARITIES IN FINGERING PRINCIPLES OF THE 18TH AND 20TH CENTURIES

The Ohio State University D.M.A. 1979

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A STUDY OF THE SIMILARITIES IN FINGERING
PRINCIPLES OF THE 18TH AND
20TH CENTURIES

DOCUMENT

Presented in Partial Fulfillment of the Requirements for
the Degree of Doctor of Musical Arts in the Graduate
School of The Ohio State University

By
Marya Hannum Giesy, B.M., M.M.

* * * * *

The Ohio State University
1979

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Professor Michael Davis
Dr. Keith Mixter
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Approved by:
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Department of Music
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I wish to thank the Oxford University Press for their kind permission to use musical examples from Editha Knocker's translation of Leopold Mozart's *Versuch einer grundlichen Violinschule*, as well as examples from I. M. Yampolsky's *The Principles of Violin Fingering*. My thanks go also to Prentice-Hall, Inc., for their kind permission to use examples from Ivan Galamian's *Principles of Violin Playing and Teaching*.

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PERFORMANCES

I Recital

Marya Giesy, violin

Grading Recital Series, 1977-78
Monday, October 31, 1977, 8:00 p.m.
Hughes Auditorium

Harriet Green, piano

Supervised by:
Professor Michael Davis
Presented in Partial Fulfillment of the Requirements for the degree Doctor of Musical Arts

PROGRAM

First Rhapsody .................................................. B. Bartók
Sonata ................................................................. M. Ravel
Partita II in D minor, chaconne ............................... J. S. Bach
Zigeunerweisen, Opus 20 .......................................... Sarasate

II Concerto Performance

Marya Giesy, violin .......................... Sunday, November 12, 1978, 3:00 p.m.
Mershon Auditorium

Accompanied by:

The Ohio State University Symphony Orchestra,
Marshall Haddock, conductor

Supervised by:
Professor Michael Davis

Presented in Partial Fulfillment of the Requirements for the degree Doctor of Musical Arts

Concerto in G minor, Opus 26 ................................. Max Bruch

III Chamber Music Recital

Marya Giesy, violin

Chamber Recital Series, 1977-78
Tuesday, May 16, 1978, 8:00 p.m.
Hughes Auditorium

Assisted by:
Dorothy Larmee, piano
Lucinda Breed, 'cello
Laura Ahlbeck, oboe
John Hyler, viola

Kathy Birch, 'cello
Susan Cowden, flute
Morris Jacob, viola
Supervised by:  
Professor Michael Davis

Presented in Partial Fulfillment of the Requirements  
for the degree Doctor of Musical Arts

PROGRAM

Trio, Opus 120, for violin, piano and 'cello . . . . . . . . . . G. Fauré
Quartet, K. 370 for oboe, violin, viola and 'cello . . W. A. Mozart
Serenade, Opus 25 for flute, violin and viola . . L. van Beethoven

IV Recital

Marya Giesy, violin

Graduating Recital Series, 1979-80
Sunday, September 30, 1979, 3:00 p.m.
Hughes Hall

Nelson Harper, piano

Supervised by:  
Professor Michael Davis

Presented in Partial Fulfillment of the Requirements  
for the degree Doctor of Musical Arts

PROGRAM

Sonata in G minor (The Devil's Trill) . . . . . . . . . . . . . . G. Tartini
Introduction and Rondo . . . . . . . . . . . . . . . . . . . . . F. Schubert
Duo Concertant . . . . . . . . . . . . . . . . . . . . . . . . . . . I. Stravinsky
Sonata, Opus 108 in D minor . . . . . . . . . . . . . . . . . . . . J. Brahms
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INTRODUCTION

Since the earliest time of the violin, violinists have been faced with the challenge of how to finger any given passage in a manner which would satisfy their personal interpretive goals. As styles of music and interpretation varied in the intervening years to the present, violinists have not always been able to meet this challenge successfully. One of the reasons is that their approach to fingering has not been well enough formulated to permit the flexibility necessary to accommodate all varied styles of music. Too frequently the first fingering which would provide an availability of fingers to cover the notes was adopted, rather than making a cognitive choice based upon a rational approach. The result was that these fingering choices had little relationship to the expressive qualities of the music being played, and thereby diminished the interpretive capabilities of the performer.

There are, however, more thoughtful methods of solving fingering problems which can lead to the formulation of a rational and flexible approach to fingering. One of these is to compare the works of well known authorities of violin technique. Many treatises have been written which deal with this subject throughout the history of violin performance. Because of the subjective individuality of fingerings, no one authority can supply all the answers. But comparison can reveal patterns of agreement of basic approach as well as expose similar techniques which have been adapted for varying styles. Each violinist must
attempt to understand both the physical and musical factors which are involved in choosing a fingering. Comparison of the approaches of respected authorities can offer a guide and reinforcement to an individual's analysis, resulting in a personalized rational approach.

In this paper, six treatises are compared: three from the 18th century and three from the 20th century. The intent of this paper is to demonstrate that 20th century pedagogues have used the same fundamental concepts as their counterparts in the 18th century, thus showing a return to a more fundamental approach to fingering from that which was commonly practiced in the 19th century.

A significant value of this comparative study of fingerings is the opportunity to observe the basic concepts used first within a similar context, and then adapted as needed for more complex music. Violin technique during the 18th century was at an early stage of development. Consequently those fingering techniques, though similar in their approach to those of the 20th century, were merely rudimentary examples of many of the concepts which are used today. The complexity of 20th century music has demanded an elaboration and refinement of these basic concepts. It is significant that these earlier concepts are being adapted and elaborated upon so successfully with such modern violinistic techniques as fingered octaves, varying vibrati, and tone coloring techniques. In addition they are being adapted to encompass performance of atonal music and other contemporary composition. Through an understanding of the basic rudimentary fingering concepts devised for simpler needs, violinists may continue to arrive at sound fingering practices for the diverse and yet unknown complexities of music yet unwritten.
The first chapter of this paper is devoted to a discussion of 18th century fingering concepts from Leopold Mozart's treatise, Versuch einer gründlichen Violinschule (1756), Francesco Geminiani's The Art of Playing on the Violin (1751), and L'Abbé le fils' Principes du violon (1761). In order to emphasize the similarities between the 18th and 20th centuries, the next chapter summarizes fingering concepts from three noted 20th century publications: The Art of Violin Playing and Teaching (1924) by Carl Flesch, Principles of Violin Playing and Teaching (1962) by Ivan Galamian, and The Principles of Violin Fingering (1967) by I. M. Yampolsky. The third chapter contains a presentation of 19th century fingering concepts. Chapter Four is a comparison of similarities in the fingerings of the 18th and 20th centuries. The final chapter draws conclusions which I believe will facilitate the formulation of a rational approach to fingering.

The word "principles" is used throughout the six treatises in an ambiguous manner, more often conveying the meaning of "concept," and merely hinting at an overall principle. The "principle" which is alluded to by all six pedagogues may be summarized in the following manner: The most suitable fingering is one which most effectively and accurately expresses the composer's intent of the musical phrase, with a minimal involvement of physical tension. The "concepts" are actually the specific types of approach to fingering which fulfill that principle.

In considering a choice of fingerings, the priority of selecting fingerings for expression of the music must be observed above all. Closely related to this are considerations of articulate clarity, which can be marred by the inherent problems of shifting and string crossings.
After these matters are satisfied, the individual physical considerations, based on minimizing tensions through an economy of muscular effort, must be observed. This can be approached by means of minimizing shifts (muscular movement of the hand/arm), or by means of minimizing distortions of the natural shape of the hand.

A study of the fingerings of the six pedagogues included in this paper reveals choices based on the above considerations. Therefore, for purposes of comparison, the fingering concepts in this paper will be organized within the following four categories: hand shape, economy of motion, clarity, and musical considerations. These terms are taken from the descriptive texts in the various treatises. Hand shape and economy of motion are directly responsible for minimizing the tension in the left arm and hand. Clarity has to do with accurate articulation, unhindered by physical technical development. Fingerings for musical expression are designed for the purpose of expressing the music accurately and effectively, even over-riding otherwise logically conceived fingerings.

Hand shape may be described as the natural hanging position of the hand when suspended from a placement of the fingers on the fingerboard. It involves the total hand as it is positioned by the arm. The most natural shape falls from the hand positioned with the middle two fingers in close proximity, and the outer two fingers covering an interval of a perfect fourth. The hand shape may be varied to cover a variety of interval requirements, but it still forms a "shape" outlined by the relationship of the fingers on the fingerboard. The importance of the
hand shape concept is directly related to accuracy of intonation and a freedom of movement resulting in a general facility of the left hand.

Economy of motion may be described as the avoidance of shifting the hand up and down the fingerboard by means of extending individual fingers or parts of the hand either up or down the fingerboard from a stationary hand base. This use of a small finger motion instead of a total hand/arm movement is an effort to minimize tension and is based on the concept that small muscle movement is less likely to generate tension than large muscle movement. Furthermore, the less there is to move, the less the opportunity for inaccuracy.

The choice between shifting to maintain hand shape or extending for economy of motion may well vary from violinist to violinist. For instance, a small hand may find that fewer tensions are engendered by shifting, whereas a large, or extremely flexible hand may find fewer tensions created in extensions. The desired style of the performance also offers a choice. A style of music enhanced by glissandi must use shifts to produce that effect. Conversely, a clean style must eliminate glissandi and will therefore tend to benefit from extensions rather than shifts. It is the artistic responsibility of each performer to decide the suitable style of any composition, through an understanding of the composer, the work, the historical context and any other pertinent information he can bring to bear.

In this paper Mozart's treatise will be discussed first (out of chronological order) because it contains by far the most comprehensive explanation of fingering concepts. Furthermore, the text is generously illustrated with pertinent musical examples. In contrast, the treatises
of Geminiani and L'Abbé consist primarily of musical examples from which fingering principles and concepts must be derived by the reader. From Mozart's detailed discussion, the four categories of fingering concepts can be easily distilled; therefore Mozart's treatise serves best as a base for comparison of all five of the other treatises.
CHAPTER I

18th CENTURY CONCEPTS OF FINGERING

Leopold Mozart

Leopold Mozart (1719-1787), father of the musical genius Wolfgang Amadeus, was a noted eighteenth century musician in his own right. He served the Court of the Archbishop of Salzburg as Vice-kapellmeister and court composer. His treatise, "Versuch einer gründlichen Violinschule" has remained a significant contribution to the art of teaching and playing the violin. The work was of such importance in its day that four editions were published by Lotter in Augsburg: in 1756, 1770, 1787 and 1800. A Dutch translation was published in Haarlem in 1766, and a French translation appeared almost simultaneously. In 1801 the first revised edition was published in Vienna. It wasn't until 1948 that the first English translation (by Editha Knocker) was published in London. A corrected edition of this followed in 1951.

This notable treatise reveals Mozart to be an extraordinarily gifted teacher. His ability to plan technical details to serve accurately the musical intent of the composer was an outstanding contribution to the art of playing the violin.

1Leopold Mozart, Versuch einer gründlichen Violinschule (Augsburg: 1756), 2nd ed., trans. Editha Knocker (London: Oxford University Press, 1951). Subsequent page references to this and the other sources will be given in the text surrounded by brackets.
The longest chapter in the treatise, entitled "Of the Positions," consists of a discussion of playing in the positions. Mozart's indication of the positions, as played on the neck of the instrument, differ from ours: natural position is the equivalent of our first position; Mozart's half position includes our second, fourth and sixth positions; his whole position includes our third, fifth and seventh positions; and compound or mixed position is a combination of our second and third positions. Mozart cites three basic criteria for the use of positions: necessity, convenience, and elegance. Along with frequent references to his three basic criteria, he also notes repeatedly the importance of economy of motion and maintenance of hand shape as being the basic principles underlying fingerings of necessity and convenience.

Mozart identifies fingerings of convenience as those which maximize the facility of the left hand, those which aid accuracy of intonation, and those which coordinate with bowings (as in string crossings or musical phrasings). Fingerings of necessity are those which permit playing notes which would be beyond the range of the hand in first (natural) position. Fingerings of elegance have to do with musical considerations, such as maintaining the timbre of a single string by means of playing in positions.

Mozart's preference for small shifts to facilitate left hand action as well as a smooth sound production is held as good practice in the 20th century, but is in contrast to the large hand movements which Geminiani's examples frequently show. (See infra, ex. 4.)

Mozart emphasizes a fingering technique which he calls "overlapping." This consists of a diminished fifth interval fingered by
adjacent fingers for the purpose of clarity. (See infra, ex. 9.) Such a fingering is an obvious necessity in the case of a double stopped diminished fifth, and is recommended for running passages as well. Mozart's overlapping fingerings presage the modern concept of realizing the enharmonic possibilities for the sake of more convenient fingerings. This is a first step toward the modern concept of an enharmonic fingering which often frees the mind from realizing notes as "finger numbers" rather than as pitches. (See infra, ex. 36.)

**Examples illustrating hand shape**

Mozart advocates maintaining the hand shape by means of shifting for a sequence fingering:

When a passage is repeated only one tone higher or lower, it is customary to play it each time with the same fingering as was used in the first; particularly if the passage runs through a whole octave or, at least, if the use of the first and fourth finger be necessary to the passage.  [p. 148]

Ex. 1


... the use of second position is well nigh obligatory.  
[p. 142]

Ex. 2


... and so on
The following passage lies within the hand shape in third position, and, except for the final F#, falls on two adjacent strings. A modern adaptation might be to shift to second position on the E, thus keeping the entire passage within the hand shape, and entirely on the two adjacent strings.

Ex. 3

The following passage shows a series of small shifts, a practice held in favor in the 20th century.

Ex. 4

Examples illustrating economy of motion

Mozart extends only the fourth finger, thus avoiding a total hand movement. A 20th century adaptation of this application would be to extend in the second measure, returning to the normal hand shape on B of the third measure. This would minimize tension in the extension:

But in the forward movement of the little finger, neither the whole hand nor any of the fingers may move with it.

[p. 135]
He who has a large fist does well to remain in the whole position and by means of expansion of the hand take the note D with the third finger, and the note F with the fourth. [p. 151]

Ex. 6

It is significant that Mozart stresses the value of a backward extension. The greater reach and flexibility of a backward shift as compared with a forward shift is an advantage commonly utilized today.

... in the mixed position, the first finger must often be stretched backwards without changing the position of the other fingers. [p. 153]
Mozart contrasts two different fingering solutions, one to preserve hand shape, the other to economize motion. Thus Mozart demonstrates that fingering solutions are not absolute, but must be determined by the desirability of the various basic considerations in each particular circumstance. A more modern adaptation of the second (extension) fingering would be to play the F# in measure two with second finger which would avoid the awkward shift between D# and B.

Ex. 8

Examples illustrating clarity

To this section belongs also that exchange of fingers which in common parlance is called overlapping. One has to avail oneself very frequently of this kind of fingering in double-stopping, or also in rapidly running passages in which notes occur together or follow directly one after the other, which it is true should, according to the position, be taken by the same fingers, but owing to sharps or flats lies so awkwardly that each of them must be played with a separate finger.
Mozart includes specific fingering suggestions for clear articulation while shifting:

... wait for a note which can be taken on an open string.  

Ex. 10

When two similar notes occur consecutively, they afford very good opportunity for descending.

Ex. 11

After the dot, too, the descent can be made very conveniently.

Ex. 12

_Fingerings for special musical considerations_

Mozart recognizes the individual qualities of string timbre. A more modern realization of the following example would utilize the third finger, rather than the fourth. This would enhance the expressiveness
(vibrato coloring). The descent could be made with two half step shifts on the A string.

In slow pieces the fourth finger is often used, not from necessity but for the sake of equality of tone and therefore also of elegance. ... Yea, the passage hangs better together and is rendered thereby more melodious. [p. 144]

Ex. 13

Andante

The extension of the fourth finger on the G string permits a bariolage bowing.

Ex. 14

Francesco Geminiani

Francesco Geminiani, born in Italy in 1687, studied violin under the brilliant and renowned Archangelo Corelli. Geminiani left Italy as a young man, spending the major part of his productive life in England. Although he was recognized as a virtuoso performer of eccentric temperament on the continent and in England, he is best remembered for his
treatise of 1751, *The Art of Playing on the Violin*, which was first published in London five years before Leopold Mozart's treatise appeared. In this he passed on directly the violinistic heritage of his teacher, Corelli.

Although Geminiani is frequently credited with numerous other instruction books, David Boyden states that the only indisputably authentic "tutor" is his treatise of 1751 and a French translation published in Paris in 1752.

*The Art of Playing on the Violin* is obviously intended for violinists of advanced skills. According to his own description on the title page, the treatise contains:

. . . all the rules necessary to attain to a perfection on that instrument with a great variety of compositions, which will also be very useful to those who study the violoncello, harpsichord etc.

The treatise is designed more as an etude book, with a textual preface, than as a descriptive discourse on this theories of technique and musicianship. The twenty-four musical "examples," each with a brief discussion of its purpose, are followed by twelve of Geminiani's compositions in which occasional fingerings are indicated. The fingering practices and principles must be derived from observation of the fingerings printed in the technical examples and compositions. Many of the fingerings in the twenty-four examples are for the purpose of developing

---


dexterity in shifting and in general left hand technique. These are of no particular value in determining Geminiani's rationale for fingerings for musical interpretation and facility. His double stop fingerings are a compendium of possibilities rather than recommendations. However, from a comparison of fingerings throughout the work, certain patterns do emerge, and these are discussed below.

Geminiani contributes three significant fingering ideas. The first is a chromatic fingering which avoids all glissandi by means of using an individual finger for each note. This technique, which ignores the placement of the hand in specific "positions" on the neck, is a striking precursor to the modern concept of fingering which disregards the "positions." Geminiani's second contribution is the use of a contracted hand shape for the purpose of avoiding shifts which would tend to create glissando sounds. The third important idea is the use of half position. All three of these practices emphasize a clarity of sound.

Geminiani's fingerings show a strong tendency to preserve the hand shape, even at the expense of economy of motion. This is demonstrated in his propensity for shifting with large hand movements, in a 1-2-3-4, 1-2-3-4 finger pattern. He does not concern himself with fingerings for selective string timbre, nor does he make use of extensions except for the necessity of extension in a unison double stop.

Examples illustrating hand shape

Use of second and fourth positions keeps the passage within the hand shape. Note the large and awkward hand movement in the shift from
fourth finger to second finger. The more facile movement of 3–1 would more likely replace the awkward 4–2 shift today.

Ex. 15

Sequence shifting maintains the hand shape.

Ex. 16

Examples illustrating clarity

Geminiani refers to the following fingering as being faulty because of the difficulty of stopping successive notes with the same finger, especially in quick time.

Ex. 17
The next fingering is given as the correct one, with each note executed by an individual finger.

Ex. 18

A shift is executed on the third beat, in the tie, to articulate the F.

Ex. 19

Geminiani recommends the contraction fingering for the descending passage. (The small figures indicate Geminiani's alternative fingerings).

Ex. 20
The following example illustrates two examples of "overlapping."

Ex. 21

Fingerings for special musical considerations

This fingering is designed to permit a bariolage bowing across the strings. Note that the fourth finger is pulled back, creating what Mozart called "overlapping."

Ex. 22

*L'Abbé le fils*

Joseph Barnabé Saint-Sévin, born in France in 1727, began his study of the violin with his father, "L'Abbé l'ainé" (Pierre Philippe Sainte-Sévin). He joined the orchestra of the Comédie-Française at the age of twelve and continued his studies with the celebrated violinist Jean-Marie Leclair. Recognized as a gifted musician of his time, he added significantly to the development of the art of violin playing in
France through his own performing career and through his theoretical treatise, *Principes du violon*.\(^4\)

L'Abbé's treatise, like Geminiani's, is primarily made up of musical examples from which one must derive principles and practices. His systematic presentation of seven positions in his exercises, and his occasional use of high positions, including tenth position, would imply an ever expanding range of violin music, necessitating a technical facility to master it.

L'Abbé's contributions to fingering include an extensive exploration of the use of half position. Although Geminiani's treatise had included some examples of half position, it was not until L'Abbé's treatise appeared that the advantages of using half position to maintain hand shape were thoroughly demonstrated. *Principes du violon* illustrates a greater emphasis on economy of motion than does either Mozart's or Geminiani's works. L'Abbé utilizes a comprehensive range of extensions for this purpose—up to intervals of tenths.

Many of L'Abbé's fingerings are similar to those of Geminiani and/or Mozart: "overlapping," rhythmic disguises of shifts, sequence fingerings, and the use of second position to preserve hand shape for the improvement of intonation and facility. The emphasis on economy of motion is also common to all three. L'Abbé's scale fingerings, with frequent small shifts, resemble those of Mozart.

\(^4\) L'Abbé le fils [Joseph Barnabé Saint-Sévin], *Principes du violon*, facsimile of edition of Paris, 1761, ed. Aristide Wirsba (Paris: Centre de Documentation Universitaire et S. E. D. E. S., 1961). L'Abbé le fils was the name used professionally by Joseph Barnabé Saint-Sévin. In this paper he will be referred to by the name of L'Abbé le fils exclusively.
It is no mere coincidence that the publication of L'Abbé's treatise marked the point in time at which the French school of violin playing took on a greater importance than the Italian school. French composers such as Leclair were writing music with skill and artistry which took the violin out of the realm of French dance music and into the world of serious music, with its more technical demands. L'Abbé's treatise reflects the need for instructional guidance toward this end.

Examples illustrating hand shape

Sequence fingerings preserve the hand shape for facility of left hand and security of intonation. ("D" is L'Abbé's indication for a descending shift, "I" for an ascending shift, and "e" for an extension.)

Ex. 23

Second position keeps the range of notes within the hand shape.

Ex. 24

Examples illustrating economy of motion

Extensions up and down eliminate the need to shift.
The following is one example of his extensive use of large extensions for economy of motion.

Ex. 25

L'Abbé's scale fingerings favor frequent, small shifts.

Ex. 26

Examples illustrating clarity

This example demonstrates overlapping combined with an extension of the fourth finger to coordinate the left hand with the string crossings.
The shift is executed during a short pause after the dot.

The shift is executed during the rest.

The shift is executed while playing the open string.
Fingerings for special musical considerations

The extension of fourth finger sets up a bariolage sequence. We observe that this is an extension up, with the hand basically being in first position in the first measure. A more logical use of the extension would be to extend down with the first finger, keeping the hand basically in second position in anticipation of the second measure. Mozart, and many twentieth century violinists also recognize the greater flexibility of the hand stretching back (down) rather than forward (up).

Ex. 32

This example demonstrates shifting for the purpose of maintaining a single string timbre (with the curious exception of the B in measure 4). Note that the change of position in measure 3 is executed by means of an extension for clarity.

Ex. 33
CHAPTER II

20th CENTURY CONCEPTS OF FINGERING

Carl Flesch

Carl Flesch (1873-1944), born in Hungary, received his principle violin training from Professor P. M. Marsick at the Paris Conservatory from 1890 to 1894. Fritz Kreisler was also a student of Marsick's during that period. Flesch's reputation as an internationally renowned teacher surpassed even his reputation as a superb performing artist. At various times in his life he taught in Bucharest, Amsterdam, Philadelphia, Berlin, and for many years in London. His treatise, Die Kunst des Violinspiels, a two volume work published in Berlin in 1923 and 1928 was translated into English, Italian, Polish and Russian. It remains as a highly respected fundamental technical and artistic guide.

In his The Art of Violin Playing, Book One, Carl Flesch devotes almost thirty pages of text to a detailed account of his fingering principles, with many examples from the literature of the 19th century. Flesch's basic principle is that the best fingering is the one which requires the least strength. He admits, however, that there can be no absolutely correct fingering for a given passage, because any objective

fingering solution must be tempered with a subjective consideration of the individual physical and emotional needs of the player. There are certain guiding principles, however, and those discussed by Carl Flesch fall readily into the same categories as those observed in the 18th century: hand shape, economy of motion, musical considerations and clarity.

Because of its direct relationship to accurate intonation, Flesch's fingerings stress the importance of the natural hand shape, which he describes as the natural distance between the first and fourth fingers. He agrees with the generally held opinion that within the interval of a fourth, covered by the first and fourth fingers, the most natural physiological relationship is that of a whole step between 1 and 2, a half step between 2 and 3, and a whole step between 3 and 4.

Flesch bases his fingerings on the practice of maintaining the natural hand shape in preference to the use of extensions. He feels that accurate intonation is better served by shifting the hand rather than breaking out of the fourth-setting (interval of a fourth) of the fingers. He points out that an enharmonic realization of a passage is frequently useful to reveal a natural hand shape coverage of what would otherwise appear to require a shift. (See infra, ex. 36.)

Extensions, according to Flesch, should be utilized only when replacing shifts which could be musically or technically disturbing. In lower positions, he feels extensions should be further limited to intervals of a fifth, and used only incidentally. In higher positions larger extensions could be acceptable because of the lesser relative distance between intervals. The natural stretching action of the hand makes
backward extensions more feasible than upward extensions, and the stretch to the first finger is more facile than between other fingers. In high positions these stretches can be executed without distorting the basic hand shape because of the relatively smaller distance between intervals.

To economize motion, Flesch includes the use of enharmonic fingerings, "crawling" into positions (a finger extension with the hand following), and a simultaneous use of two positions.

Although Flesch demonstrates selection of fingerings for specific string timbre, he presents a more extensive discussion of the expressive use of portamenti. This reflects an artistic choice of style which has modified from that position since Flesch's treatise was written. A more significant emphasis is now placed on the choice of string timbre, while greater discretion is used in the choice of portamenti.

Flesch's fingerings designed for clarity include the chromatic fingering which uses individual fingers for each note, shifting on a strong beat, and shifting with a change of bow. (See infra, page 30.) Many of his fingerings are based on the concept that clarity may be achieved by freeing the left hand from the traditional location of positions on the neck. (See infra, ex. 42 and 43.) Flesch's fingerings in this area were an impetus toward a strong emphasis on clarity which continued to emerge in the 20th century.

**Examples illustrating hand shape**

Extensions in high positions fall within the natural hand shape.
The hand shape is maintained by means of half position and then second position, with a backward extension of the 1st finger to E.

Ex. 35

Paganini-Kreisler, Caprice No. XX

The naturalness of the printed fingering is revealed by thinking this passage enharmonically.

Ex. 36

Dvořák, Trio, Op. 65, 2nd Movt.

In the following example hand shape is preserved by shifting to half position for the purpose of clarity.

Ex. 37

Correct + Beethoven, Op. 11, Movt.

Incorrect
Examples illustrating economy of motion

Moving the hand up or down, one finger at a time in a crawling fashion, avoids the danger of an unwanted glissando. This type of fingering replaces the concept of playing in specific positions.

Ex. 38

Shifting on the half-step minimizes the motion necessary to execute the shift.

Ex. 39

Flesch fingers the C-B-C of the following passage with the same finger because of the extreme proximity of the half-step interval in high positions. The tonal differentiation is effected by means of a tipping action of the hand. This requires less motion (and tension) than a shift.

Ex. 40
The extension of the 4th finger replaces a shift.

Ex. 41

Examples illustrating clarity

The chromatic scale has each note fingered individually.

Ex. 42

The simultaneous use of two positions eliminates the need to shift.

Ex. 43

Crawling up or down the fingerboard by means of extensions eliminates shifting.
Shifting on the pulse adds to the clarity.

Broken fifths are fingered individually in slow tempo. (Flesch gives two alternative correct fingerings.)

Fingerings for special musical considerations

Portamenti should not be played successively.
To create a strongly emotional effect, a portamento should be executed with the same or adjacent fingers.

Ex. 48

Flesch begins the next passage on the G string for maximum sonority, then omits the D string with its tendency to sound thin in high registers.

Ex. 49

The theme is delineated by the timbre of the G string.

Ex. 50

The 3rd finger, with its fatter pad and greater strength, is selected to give a more expressive sound to the high C.

Ex. 51
Ivan Galamian

Ivan Galamian, born in 1902 of Armenian parents, received his primary violin training at the Moscow Philharmonic Institute. He had achieved acclaim as a concert artist in Europe before emigrating to the United States in 1930. His brilliant teaching career in this country has included prestigious positions on the faculties of the Curtis Institute of Music in Philadelphia and the Julliard School in New York as well as private teaching. His summer program at the Meadowmount School in Westport, New York is known internationally, and has been attended by many well known concert artists of recent times. Mr. Galamian has been active in editing music and in writing technical works and treatises. His Principles of Violin Playing and Teaching has become a significant contribution to the art of playing the violin for both teachers and students. In this work he outlines his basic technical ideas, relating them to his artistic concepts.

In his discussion of left hand technique, Galamian refers to the shape of the hand as a "frame" in which the first and fourth fingers cover an octave interval on adjacent strings. Rather than attempting to determine the most natural fall of the intermediate fingers, Galamian describes a square and an elongated shape. The elongated shape is formed when a finger reaches up a half step from its square (or natural) position.

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Extensions, both up and down, constitute a temporary reaching beyond the frame while the hand remains stationary. The basic frame remains the same up to approximately the sixth or seventh position. This frame concept (or hand shape) is basic to all his left hand technique.

Galamian makes use of extensions and contractions as replacements for shifts wherever possible, rooting them within the basic frame. Even within his discussion of shifting, he describes a "half-shift" as one in which the fingers extend while the thumb remains stationary. He also utilizes a "retarded shift," in which the finger extends, with the hand following it into the new position.

Clarity is emphasized. He avoids shifts not only through breaking out of the hand frame by means of extensions and contractions, but also through the more traditional methods of using the chromatic fingering, and exchanging fingers on consecutive notes.

Galamian concedes that fingering for clarity can be carried to such extreme that a sterile interpretation could be the result. He cautions that it is therefore necessary to make prudent use of planned expressive fingerings such as glissadi and left hand accents. It is also important to select strings for their particular timbre in order to achieve color variety.
Examples illustrating hand shape

The shift to second position permit the following triplets to be played within the hand shape, obviating string crossings.

Ex. 53 [D Minor Partita, Allemande m. 3]

The sequence fingering continues the hand shape coverage of the passage. An alternative sequence fingering is given underneath. The box indicates a downward extension (half shift) rather than a conventional shift.

Ex. 54 [D Minor Partita, Gigue m. 7]

Examples illustrating clarity

This passage is fingered to emphasize clarity in two ways:

(1) In chromatic passages each note is fingered individually.

(2) The shift occurs while playing on the open string.
In this passage the exchange of second and third fingers on D articulates the sound within the tie.

Examples illustrating economy of motion

Keeping the hand still and extending fingers 4, 2, and 3 at the beginning and end of this passage accomplishes two purposes:

(1) intonation is more secure.

(2) offensive glissandi are eliminated.
In this passage the hand and thumb remain stationary while the fingers extend down (a half-shift).

Ex. 58

In the second measure the hand is basically in second position for the octave A. This prepares the interval of the tenth to be played in second position with a backward extension of the first finger.

Ex. 59

A retarded shift: one finger extends the hand following it into position.

Ex. 60
Fingerings for special musical considerations

The F# is accented with the left hand, and is reinforced by intense vibrato which projects the accent.

Ex. 61

The exchange of third for first finger on the B♭ in the following passage not only clarifies the articulation, but permits a difference in the expressiveness of the vibrato, effecting a change of color and change of intensity of the sound.

Ex. 62

Izrail M. Yampolsky

The Russian musicologist and lexicographer, Izrail Yampolsky, is best known for his comprehensive work on fingering techniques, Osnovy Skripichnoi Applikatury (Moscow, 1933). Two more editions were published in Russian before the English translation, The Principles of Violin Fingering was published in London (1967).

Yampolsky (1905-1976) received his training in violin, music history and theory at the Moscow Conservatory, where he later returned as a lecturer in music history. He was active as a musicologist, co-editing the *Encyclopedic Music Dictionary* (Moscow, 1959; revised 1968). He was also acting editor-in-chief of the first three volumes of the five volume *Musical Encyclopedia* (Moscow, 1973, 1974, 1976).

In his *Principles of Violin Fingering*, Yampolsky bases his selection of rational fingerings on three basic considerations: the physical relationship of the four strings on the fingerboard, the natural fall of the hand on the fingerboard, and the requirements of the particular music involved. He does concede that solutions to fingering problems will vary, for three reasons: (1) performance and technical practices vary from one generation to another, and from one country to another; (2) each individual artist's subjective interpretation will be unique if it is honest; and (3) each individual player will have some physical differences which demand a personal solution.

Yampolsky's approach rests on the fact that the hand in its natural shape falls on the fingerboard with the second and third fingers falling in closest proximity with the first and fourth fingers describing an interval of a perfect fourth. Thus, the natural hand shape at the bottom of the fingerboard would fall on the following notes:

Ex. 63

![Ex. 63](image-url)
Yampolsky gives the concept of hand shape a new significance by emphasizing the fact that the interval of a perfect fifth, which may be covered by any single finger on adjacent strings, permits that finger to act as an axis around which the other fingers may move and orient with ease.

Ex. 64 Beethoven, Sonata No. 7, 1st Mvt.

Yampolsky systematically presents a variety of musical situations which require rational fingering solutions. His presentation reveals the same viewpoints as his predecessors: hand shape considerations, economy of motion, clarity of left hand, and musical considerations. His emphasis is that of a solution based on physical characteristics of the hand and the instrument, with an assumption that the purpose of the fingering is above all to serve the musical intentions of the composition.

A rational fingering is described by Yampolsky as being "the most suitable way of placing and moving the fingers on the fingerboard, that which allows the violinist to perform with confidence and with a minimum of effort." Thus he affirms the principle that a good fingering requires a minimum of tension. In carrying this out, Yampolsky shows a balanced consideration of hand shape, economy of motion, and clarity of articulation to accomplish the desired musical effects.
In the area of economy of motion Yampolsky emphasizes the importance of knowing when and how to leave the fingers on the string. This is important in preparing fingers, especially in double stops. Thus an ascending line automatically assures the descending line. Maintaining fingers solidly on the string is also the basis of secure pizzicato technique. In double stops, the stopping of two strings with one finger adds to the stability of intonation and creates a point of support for the other fingers. Other means of creating economy of motion include the use of extensions and contractions to avoid shifts, the use of even numbered positions, fingered octaves, half-step shifts, and a utilization of the open strings.

Yampolsky's fingering suggestions for special musical effects are imaginative and varied beyond those in the other treatises discussed. He recognizes the weak quality of the middle strings in high registers and unique opportunities for the special timbre of harmonics and open strings. He urges discreet use of the portamento, and takes into consideration such subtleties as the need for the leading tone and the tonic to be on the same string.

In fingerings for clarity he reiterates the practices of the earlier treatises, stressing the chromatic fingering executed by individual fingers to the point of using it in chromatic double stops.

**Examples illustrating hand shape**

The use of second position preserves the hand shape with a minimum of string crossings. The D♯ in measure 2 is fingered enharmonically as an E♭ in second position (overlapping).
Minor triads are fingered 1-2-4. In lower position this calls for a slight extension of the second finger. In higher positions the relatively closer proximity would cause the minor third to fall naturally between adjacent fingers.

In high positions octave fingerings of 1-3 and 2-4 fit the hand shape.

The use of third position, which keeps the passage within the hand shape, is an obvious solution in the enharmonic realization illustrated in the lower staff of the following example.
Examples illustrating economy of motion

Holding the first finger down while extending the fourth eliminates the need to cross strings with the first finger and provides a support for the total hand position.

Extensions covering intervals of fifths, sixths, and sevenths avoid shifts.

Ex. 70

Allegro giusto non troppo vivo

Ysaye, Sonata No. 6
The next passage demonstrates a contraction of the hand shape to avoid a shift.

Ex. 71

Examples illustrating clarity

Yampolsky fingers chromatic scales with individual fingers.

Ex. 72

The light action of the finger producing the harmonic frees the hand from tension, making a clear articulate arrival possible at the end of the shift.

Ex. 73


Extensions eliminate the blurring sound of glissandi.
Chromatic double stops are played with individual fingers. An extension of the second finger avoids a glissando between the F and F♯.

The B is prepared by placing the second finger on F♯ and B simultaneously.

Fingerings for special musical considerations

Two optional fingerings offer two different string colorings.
The leading tone and the tonic in the second and third measures are played on the same string to emphasize a sense of leaning into the tonic.

Ex. 78

Open strings add brilliance to this arpeggio.

Ex. 79

The harmonic adds a warmth and special color.

Ex. 80
The discreet use of the portamento adds a lyrical and expressive quality. However, to use it repeatedly would become trite.

Ex. 81

Allegro

Rakov, Concerto, 1st Movt. (ed. Oistrakh)
CHAPTER III

COMMON VARIANCES FOUND IN 19th CENTURY FINGERING CONCEPTS

The following examples illustrate a few of the common fingering practices of the 19th century. There are contrasted with solutions more typical of the 29th century which show a closer adherence to the concepts of Mozart, Geminiani, L'Abbé, Flesch, Galamian and Yampolsky.

Choice of positions: [Yampolsky, p. 48]

Ex. 82

19th century solution tends to avoid the use of odd numbered position, resulting in frequent awkward and unmusical shifts, marring the clarity of the passage.

Ex. 83

The more modern solution eliminates one shift though the use of second position and a half-step extension. The passage now has a cleaner sound.
Diminished seventh arpeggios: [Yampolsky, p. 71]

The 19th century solution, with a backward extension to D♯, causes tension by destroying the hand shape.

Ex. 84

The more modern solution, the use of half position, becomes obvious when the enharmonic spelling is considered.

Ex. 85

Selection of glissandi: [Yampolsky, p. 124]

The 19th century practice of using frequent and successive glissandi gave a character of indefiniteness of pitch and overstated emotionalism.

Ex. 86

The better solution selects glissandi with discretion to create a specific emotional effect.
Octaves:

The 19th century solution compromises the hand shape by shifting with the 4th finger. Intonation is endangered in the loss of hand shape.

The better fingering prepares the succeeding octave by shifting with an exchange of 1st and 2nd fingers on a common note while using the change of fingers as a security measure.

Ex. 87

Ex. 88

Ex. 89

[Standard Violin Concertos the Whole World Plays, p. 12]®

[Flesch, p. 139]

Choice of shifts or extensions:
The 19th century preference for shifts introduces frequent glissandi for purely technical purposes. Frequent movement of the hand makes security of intonation more difficult.

Ex. 90

The choice of extending the hand permits the bottom of the hand to remain stationary, thus making intonation more secure. Glissandi are eliminated.

Ex. 91

Chromatic fingerings:
The semitone slides, common in the 19th century, obscure the clarity of the passage in a fast tempo. They would be useful only for expressive purposes in slow tempi.

Ex. 92
Chromatic scales are clearly articulated.

Ex. 93

Use of harmonics:
The use of a harmonic creates an unmusical tonal contrast in the quality of the sound. Its application is for technical convenience alone.

Ex. 94

The use of a solid finger on A creates a more unified tonal quality in the phrase. (The use of 3rd finger would permit an even more unified vibrato.)

Ex. 95
CHAPTER IV

A COMPARISON OF THE 18th AND 20th CENTURY FINGERINGS

Examples from the 18th and 20th centuries are placed adjacent to each other in this chapter so that the differences and similarities within each of the concept categories may be easily observed. In some cases the similarities are so striking that it would be difficult to identify the century without knowing the name of the violinist who had fingered the passage. In other cases, there are obvious differences. A comparison of these differences makes clear the fact that the 20th century applications can frequently be seen to be adaptations of more primitive 18th century concepts. More complex music of necessity demands a more sophisticated technical approach, but the soundness of the basic concept is the element which makes such a concept applicable in both simple and complex contexts.

Examples illustrating hand shape

The use of sequence fingerings:

Leopold Mozart and Yampolsky both demonstrate sequence fingerings with the shift occurring with an exchange of fingers on a repeated note.
Mozart:

Ex. 96

Yampolsky:

Ex. 97

The use of half position:
L'Abbe le fils and Galamian both illustrate passages played entirely in half position to stay within the hand shape.

L'Abbe le fils:

Ex. 98

Galamian:

Ex. 99
Examples illustrating economy of motion

The use of half-step shifts:

Mozart uses the half-step shift in this example only where it coincides with the sequential fingering (in measure two). A half-step shift (in measure one) within the slur was not used.

Ex. 100  

Yampolsky uses the half-step shift even within the slurs.

Ex. 101  

The use of extensions:

Mozart illustrates a preference for an extension over shifting in higher positions.

Ex. 102  

[p. 149]
[p. 42]
[p. 151]
Yampolsky's illustration shows a similar preference.

Ex. 103

Use of second position:
Mozart eliminates the need to shift or extend through extensive use of second position.

Ex. 104

Flesch demonstrates a more complex use of second position. The 2nd and 4th fingers extend to what appears to be second position, but the base of the hand remains stationary. In reality the identification of positions is abandoned.

Ex. 105

Examples illustrating clarity
Shifting while playing an open strings:
Mozart indicates that the shift is to be executed while playing the open A string.

Ex. 106

Yampolsky indicates the same technique.

Ex. 107

Chromatic fingerings:

Geminiani's chromatic fingering gives clarity by using an individual finger for each note. However the sequence of fingers has little relationship to either convenient shifting patterns or comfortable hand shapes. The 3-4-3-4-2-3 sequence is particularly awkward.

Ex. 108

Galamian's chromatic fingering also uses individual fingers for clarity. However the sequence of fingers is arranged for logical shifting and comfortable hand shapes. The resulting minimum of
tensions helps secure accurate intonation and makes the passage easier
to play.

Ex. 109 Allegro moderato

Extensions to avoid glissandi:

Mozart's illustration has the hand extending over the B-d#-F#-A chord
in the following passage. Then the bottom of the hand follows in the
final measure, putting the hand basically in sixth position.

Ex. 110

Galamian illustrates the same process, which he entitles a "retarded"
shift.

Ex. 111

Yampolsky demonstrates the covering of an arpeggo with an extended hand,
similar to Mozart's illustration, but with no need for a "retarded"
shift.
Fingerings for special musical considerations

Choice of string timbre:
Mozart chooses to extend the 4th finger so that the A string timbre will be continued. (The importance of vibrato in modern sound production would make the 4th finger an unlikely choice in the 20th century.)

Ex. 113

Flesch fingers the second measure in this example on the G string for maximum sonority of the sforzando.

Ex. 114

Yampolsky uses a change of string timbre to delineate phrasing.

Ex. 115
CHAPTER V

CONCLUSIONS

There are two important conclusions to be drawn from a comparison of fingering techniques of the 18th and 20th centuries. The first is that rational approaches to fingerings for the 20th century are founded upon basic concepts established in the 18th century and are not merely reactionary approaches to common practices of the 19th century. The second is that an understanding, gained through identification and comparison of similar concepts from the 18th and 20th centuries, will permit the formulation of a principle by which each violinist may individually approach his own rational fingering solutions. This basic principle states that the most suitable fingering is one which most effectively and accurately expresses the composer's musical intent with minimal involvement of physical tension.

The fulfillment of the composer's musical intent involves two criteria: (1) the need to produce an accurate and clear articulation of notes, rhythm and dynamics as indicated by the composer, and (2) the need to provide the best technical opportunity for the expression of the considered artistic ideals of the performer. The satisfaction of these two criteria will have a significant bearing on the personal choice of fingering for a given passage. The choice of one criterion over the
other accounts for some of the individual differences in fingering solutions.

Based on the physical premise that muscular exertion creates tension, two considerations are involved in minimizing physical tensions of the arm and hand: (1) distortion (extension) of the hand shape creates tension, and (2) motion (shifting) of the left arm creates tension. Tension increases the likelihood of inaccurate placement of the fingers (intonation problems). Therefore, the most reliable fingering is that which utilizes the most natural shape of the entire hand with the least amount of tension from movement. Unfortunately, most given passages do not lie under the quiet hand falling naturally on the finger-board, and hence, some compromise is unavoidable.

It is clear, from the variety of fingerings in the six treatises presented in this paper, and for the reasons discussed above, that there is no single best fingering. But rather, fingering is a means of artistic expression, reflecting the performer's understanding of the work and his own personal feelings toward it, as expressed through the physical individuality of his technical mastery. An understanding of basic concepts, both physical and musical, can guide the performer to select those fingerings which will best satisfy his understanding of the musical demands of the work and which will best permit his hand to bring this about technically. Thus, a clear understanding of basic fingering concepts will provide a means to a rational, as well as an individual artistic expression of music of the past, present, and future.
BIBLIOGRAPHY


