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String Praxis

String Praxis publishes scholarly papers on the pedagogy and performance of bowed string instruments twice a year. Research and discussion topics include the teaching and learning of string performance, the history and methodology of string pedagogy, scholarly discussion of teaching materials and methods, conceptual foundations of pedagogy and performance and the performance practice and performance culture relevant to string instruments.

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Papers should be double spaced and referencing should follow the Chicago manual of style. In general, footnotes are used for references only.

Submitted papers will be sent to two readers for blind review. Authors may request copies of readers' reports. Readers shall remain anonymous. The decision of the editors is final and not subject to appeal.

Content

Volume 2 No 1, October 2013

Editorial

This second volume of *String Praxis* is published both later and with less content than we had originally envisaged. This reflects the challenges of Australian Higher Education in our area of string performance. Notwithstanding the rhetoric and superficial strategies that supposedly enhance research, thoughtful investigation of those aspects which enhance the artistic performance of music seem to be declining and the circumstances in which to undertake such research are becoming increasingly constrained.

While the media emphasises the intellectual, social and ethical benefits of studying music performance, the reality is that the area appears insufficiently supported and inadequately grounded. Artists are distracted to pursue empirical agendas on flimsy philosophical foundations and researchers are seduced by opportunities without adequate conceptual clarification. Both tendencies encourage reactive inspection of problems without advancing the discipline in any meaningful sense.

We believe that there is an increasing need for qualified inquiry and discussion of string performance and pedagogy. This volume brings together contributions on technical and conceptual foundations of violin playing and a discussion of the complex historical challenges posed by the various sources of Bach's Solo Suites for Cello from a performer's view.

At the time of offering these writings to the public, we invite writings especially on topics relevant to the foundation of learning and teaching of teaching performance from interested scholar-musicians and thinkers. All contributions are blind peer-reviewed.

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The Road Towards the First Complete Edition: Dissemination of J. S. Bach's Solo Cello Suites in the Nineteenth century

Zoltan Szabo, University of Sydney/ Sydney Conservatorium of Music

1850 was a year of some importance in the nineteenth-century recognition of Johann Sebastian Bach's music. His name and art would have been almost completely forgotten after his death (1750), had it not been for the determination of a few devoted students and, above all, his sons, Carl Philipp Emmanuel and Wilhelm Friedemann, whose efforts are well documented in their correspondence with Johann Nikolaus Forkel, Bach's first biographer.[1] A selection of their father's organ and other keyboard pieces and choral compositions received the occasional performance and sometimes even ended up being published.[2] Mozart, Beethoven and some of their contemporaries also held the Cantor of Leipzig in high esteem. None of that meant fame by any means but the flame was kept alive for quite a few decades.

The Bach renaissance did not start until the famous, often quoted performance (the first since the composer's death) of the St. Matthew Passion in Berlin in 1829 under the direction of none other than the barely 20 year old Felix Mendelssohn Bartholdy. Mendelssohn and another young German composer, Robert Schumann, worked tirelessly, and indeed selflessly, on disseminating forgotten masterpieces, making a broader repertoire accessible for the general public. A typical example for this effort: Mendelssohn established "historical concerts" in Leipzig, where he premiered among other works Franz Schubert's Ninth Symphony, the score of which was discovered and sent to him by Schumann.

In 1834 Schumann founded and for several years edited the *Neue Zeitschrift für Musik*, a twice-weekly publication, offering essays and news about the classical music scene in Germany and abroad, reviews of new publications, concerts and opera. Later, in 1850, exactly one hundred years after Bach's death, he became one

[1] Johann Nikolaus Forkel, *Ueber Johann Sebastian Bachs Leben, Kunst, und Kunstwerk. English: Johann Sebastian Bach : his life, art, and work / translated from the German of Johann Nikolaus Forkel ; with notes and appendices by Charles Sanford Terry* (New York, Vienna House, 1974).
[2] Hofmeister, Hofmeister XIX [electronic resource] : Monatsberichte, ([London, England]. Royal Holloway College, University of London, 2007).

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of the founders of the *Bach Gesellschaft*, a society whose express purpose was to publish every known work of Johann Sebastian Bach in a critical edition.

The editors of the *Bach Gesellschaft* took to the task of preparing the first *Bach Gesamtausgabe* with Teutonic thoroughness and precision, not wanting to repeat the mistakes of two recent and very incomplete "Complete Editions" of Georg Friedrich Händel (1787-1797 Samuel Arnold and 1843-1858 English Handel Society). It took almost fifty years to publish 46 mighty volumes, of which the 27th (which appeared in December 1879, Leipzig) encompassed the string solos: the Violin Sonatas and Partitas and the Cello Suites, under the supervision of writer, pianist and expert music librarian, Alfred Dörffel (1821-1905).

His ground-breaking publication of the Suites became so highly respected that it is still available in reprints today. Many musicians of our time consider it to be the first edition of acceptable scholarly quality. What made it different from any previous edition was the fact that Dörffel found a manuscript in Berlin to which no one before him had paid any attention. It was in the hand of Bach's second wife, Anna Magdalena, prepared sometime between 1727 and 1731. Later it went through several hands, before first becoming part of Forkel's, then Georg Poelchau's library. From Poelchau's estate, the manuscript was passed onto the Berlin Royal Library (*Königliche Bibliothek*) in 1841 and stayed there undiscovered until Dörffel recognised its significance and rescued it from obscurity. No previous editors could make use of Anna Magdalena's copy before, simply because it was not known and therefore available to them.

In the rather long and astonishingly intricate history of the Bach Cello Suites editions, a path taking frequent, unexpected turns, Dörffel's publication marks the beginning of a new major phase. For the first time, Anna Magdalena's manuscript was announced as a source of key importance; all later editors were obliged to pay attention to it, often taking extremely divergent views regarding its reliability and authenticity. Dörffel even referred to her script as the *Originalvorlag*, confusing several editors well into the twentieth century who assumed, wrongly, that the word *Original* would promise an autograph. This was most certainly not Dörffel's fault: in the next sentence of the preface he clearly states that the manuscript in question was written by Anna Magdalena.[3] And yet, as recently as 1977, Kazimierz Wilkomirski stated in the foreword of his edition of the Suites that

[3] Johann Sebastian Bach, "J. S. Bachs Kammermusik. Sechster Band. Solowerke für Violine. Solowerke für Violoncello, Bd XXVII/1," in *Alte Bach Gesamtausgabe* ed. Alfred Dörffel (Leipzig: Breitkopf & Härtel, 1879). PXXX

"…recent research has shown that [Anna Magdalena's] manuscript of the Suites is no copy, but the original. I share this view; the extracts from manuscripts by Bach and his wife which are reproduced in the edition by the Soviet cellist Alexandr Stogorsky remove for me all doubts as to the authorship of the manuscript of the Suites."[4]

Dörffel's authoritative edition with its newly discovered source represented a turning point in the editions of the Bach Suites. The question must be asked: could these masterpieces have been propagated in any credible way since their inception until their publication in the scholarly *Gesamtausgabe* some 160 years later in 1879?

Manuscript Sources

When exactly Bach's Solo Cello Suites were written, is not known, for there is no extant manuscript left for us in the composer's hand. They would have become lost forever and soon forgotten, like many of Bach's other compositions, had they not been copied by several scribes over the course of the eighteenth century. The Suites have been transmitted to future generations in the hands of four different copyists, two of them in Bach's lifetime, and two much later, in the second half of the century. All editions since have been based in some way on one or more of these copies.

The copyist closest to the composer was without any doubt his second wife, Anna Magdalena (1701-1760). Watermarks and other graphological studies prove that her copy (in scholarly writings referred to as copy A) was made between 1727 and 1731. However, she was not the first person to copy the Suites. Johann Peter Kellner (1705-1772), probably a personal acquaintance and certainly an admirer of Bach and himself an accomplished organist, copied a relatively large number of his works, including the Violin Partitas and Sonatas and the Cello Suites (known as copy B). He wrote down all the string solo pieces around the same time and since the first page of his copy of the Violin Sonatas and Partitas bears the following inscription: "*Scrips./Johann Peter Kellner/Anno 1726./Frankenhayn*"[5]- we know when and where his work was done.

[4] Johann Sebastian Bach, "Six suites for violoncello solo," ed. Kazimierz Wilkomirski ([Krakow]: PWM Edition, 1977). 4

[5] Quoted in Russell Stinson, "J.P. Kellner's Copy of Bach's Sonatas and Partitas for Violin Solo," *Early Music* 13, no. 2 (1985).

The other two copies were made after the composer's death from a manuscript, now lost, that also probably served as the basis of the first printed edition in 1824. Both of these copies were prepared by scribes whose names are not known to us. The first of these survived as a part of a larger collection in the property of Johann Christian Westphal, after whose name this copy is often referred to as the *Westphal Copy* or copy C. Interestingly, this manuscript was written not by one copyist but two. In the *Bourrée I* of the *Third Suite* the handwriting changes visibly in bar 12, marking the place where the second copyist took over. The other of the anonymous scripts was offered for sale as part of a larger packet by an Austrian art dealer by the name of Johann Traeg in 1799, hence the reference to it as the *Traeg Copy* or copy D.

To have four copies of the same masterwork could be thought of as a very fortunate situation. Surely the composer's intentions would reveal themselves through examination of these sources. Unfortunately, the four handwritten copies are all significantly different from each other and there is no clear indication as to any one of them being substantially superior. The four manuscripts are admittedly very similar (though by no means identical) in terms of notes and rhythms. However, they are significantly and consistently different in their articulations. For string players slurs are the most common and fundamental means of indicating articulation, therefore the placement of slurs is of particular importance, considerably more so than it would be in, for example, keyboard music. The existence and length of the slurs determines the bowing technique; there is a substantial difference between certain up- and down-bow strokes, their length and delivery.

However, marking this part of the interpretational process into the score is a relatively new development in the history of music. In the baroque era, slurs could be, but were not necessarily, part of the final product. In the first part of the eighteenth century, composers would regularly perform their own pieces, in which event there was no need for detailed performing instructions such as slurs. Even if that were not the case, they would consider the performer a creative colleague of almost equal rank and would leave all kinds of articulations (including slurs) and ornamentations to his judgement – a most important point too often disregarded in today's performances.

Be that as it may, Bach's articulation markings in his beautifully written out copy of the Violin Solos (composed around the same time as the Cello Suites in 1720 or before) are considerably more detailed than, for example, in the string parts of his cantatas or orchestral suites. Even more important is the fact that his bowing instructions in the Violin Sonatas and Partitas demonstrate his expertise on a string instrument and work well, mostly adhering to the widely accepted *Abstrichregel* or down-bow rule, according to which

"...one endeavours to take the first note of each bar with a down stroke, and this even if two down strokes should follow each other."[6]

This is the point where the lack of the autograph creates immense difficulties in understanding and following the composer's intentions. Albeit with regards to the principal parameters (pitch and length of the notes) the four manuscript sources and indeed the first printed edition mostly agree, in terms of the bowing instructions, there is a constant variance between them. It wouldn't be flippant to say that the only thing they consistently agree on regarding articulations is that they seldom agree.

A brief excerpt from the *Praeludium* of the G major Suite will demonstrate excellently this rather chaotic state of affairs. The legato marks are not only different in all of the four manuscripts but differ also in the first four new editions.

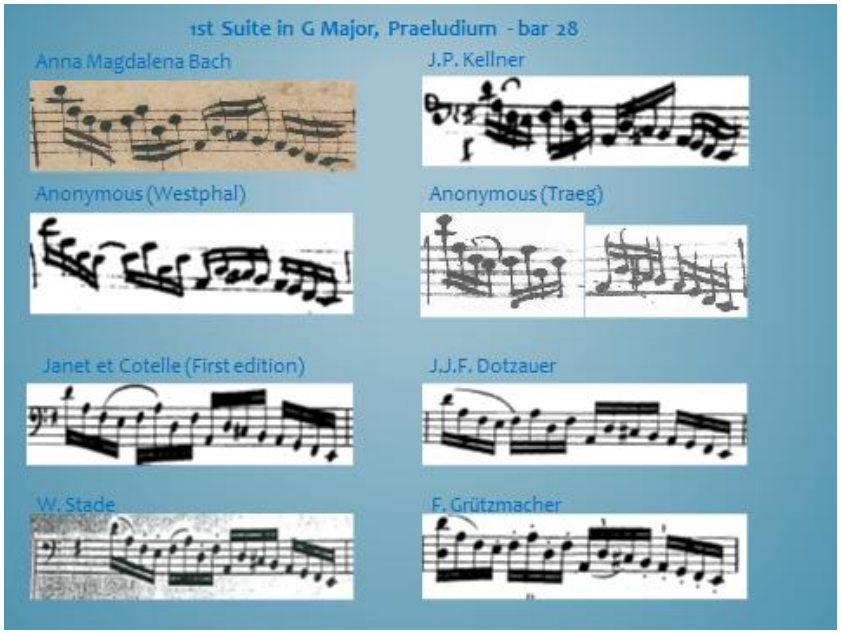


Figure 1: Prelude G major Suite, bar 28

The reason for the differences – at least as far as the manuscripts are concerned - can be given in three different ways. The easiest and most straightforward

[6] Leopold Mozart, *A treatise on the fundamental principles of violin playing*, vol. 6. (New York: Oxford University Press, 1985). 74

explanation would be slipshod work. The human factor is very rarely recognised here. Take Anna Magdalena as a case in point: she was a young woman of barely twenty when she married Johann Sebastian in 1721. Although an accomplished professional herself, a trained singer of some quality, she had to look after the Bach household and that included the duties of being a stepmother to Bach's four young children from his first marriage. She also gave birth to ten children between 1723 and 1733. That means – and this fact is seldom mentioned or appreciated in the biographies – that for the overwhelming majority of those years she was pregnant. For the few months when she was not, she had to look after newborn babies. To make this extremely difficult period of her life even harder, seven of her children died during those eleven years.

These were the exact same years when she copied several of her husband's compositions, including the Cello Suites. Would negligence be the right word to describe the cause of her share of mistakes or would perhaps permanent exhaustion be more appropriate?

Another possible explanation, assuming that all four manuscripts were copied from several but original autographs – an assumption by no means proven – could be that their sources might represent different stages of the compositional process (drafts, fine copies etc.) and thus be marked in different ways. Bach rarely copied one of his own works without continuing the editing and composing process.

Finally, the last explanation could assume, indeed accept, that the manuscripts represent to some extant an already "edited" version of the original and thus would include interpretational suggestions by the copyists (based on performance practice or advice from contemporary cellists?) as well. This assumption would seem particularly credible for manuscripts B, C and D.

The first edition by Janet et Cotelle

There is one further primary source that under normal circumstances could help to decide questions of authenticity: that is the first printed edition. Curiously, this was published not in Germany but in France about a hundred years after the Suites were written. This happened barely eleven years after one of the bloodiest combats ever between French and German troops at the Battle of the Nations, a truly unlikely time for cordial Franco-German relationships. And yet, Napoleon may have lost on the battle fields at Leipzig, but a small Parisian firm, Janet et Cotelle, won a major coup in 1824 by printing the Cello Suites for the first time. The editor, the Frenchman Louis-Pierre Norblin (1781-1854), based his work mostly on the two late eighteenth-century copies but deviated from them often enough to make it unique and rather unreliable. He changed the title from *Suites* to *Sonates ou Etudes* without any explanation. He also changed the names of several movements. Not only the originally French *Courantes* became Italian *Correntes* in his version but also, for

no obvious reason, he renamed the *Bourrées* of the Third and Fourth Suites as *Loures*. He added his own tempo markings to all the movements. Other extensive changes such as his bowings and other articulation markings are not particularly helpful or logical from a cellist's point of view.

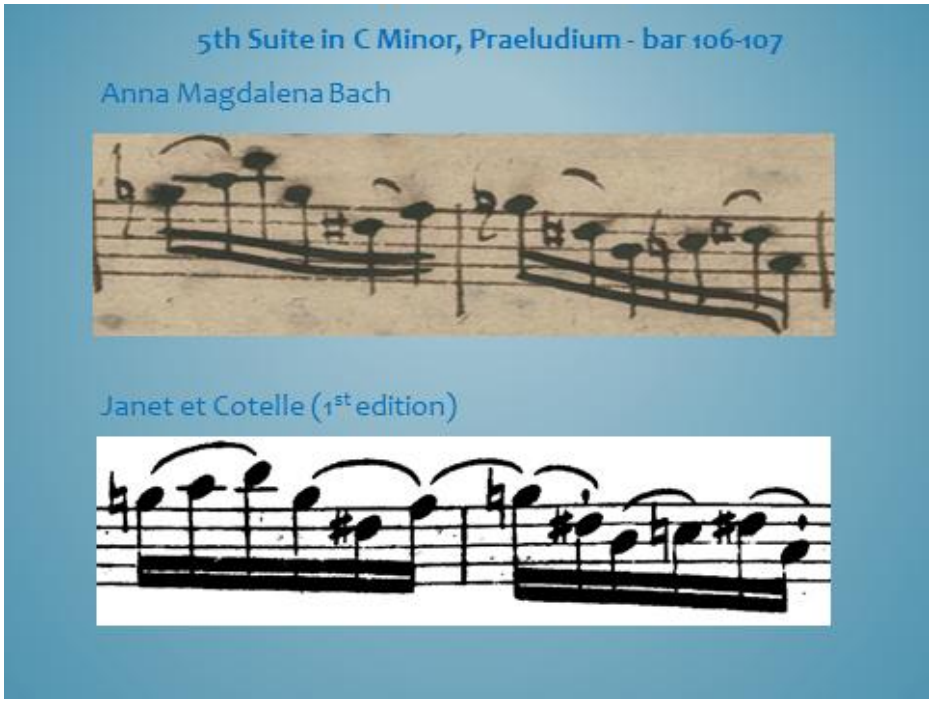
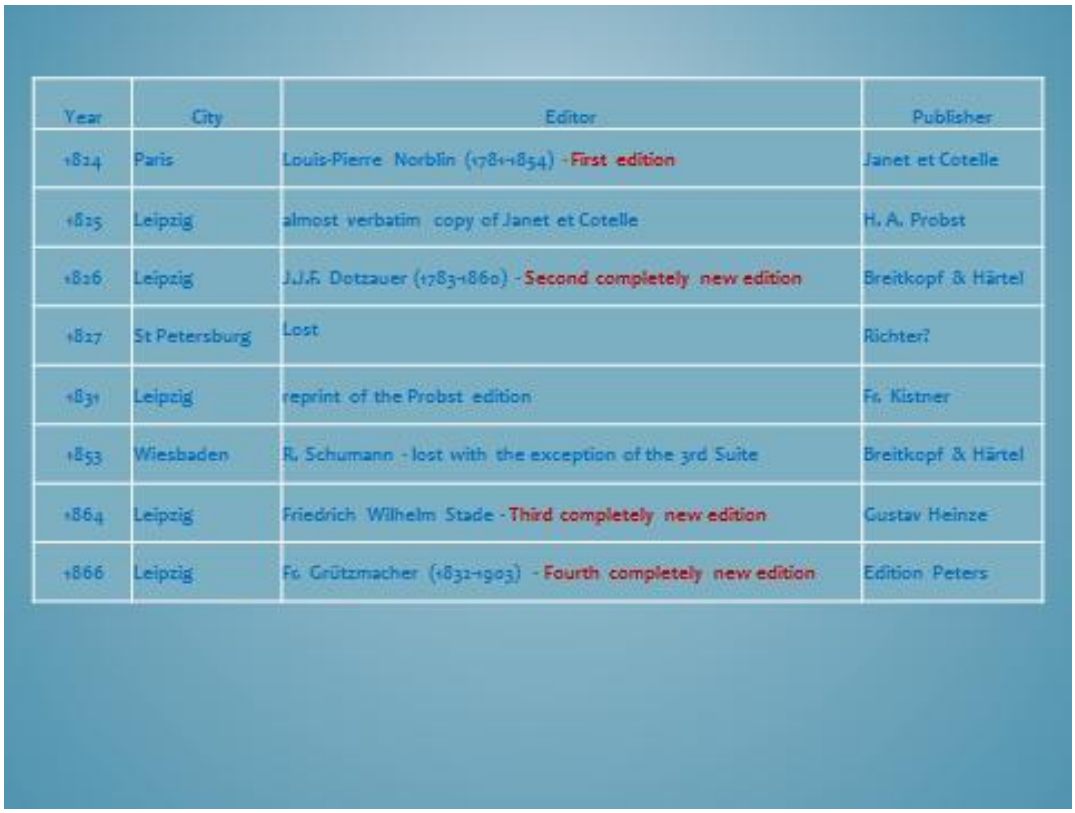


Figure 2: Prelude from c minor Suite, bars 106-107

To "facilitate" playing in the Sixth Suite, he reduced Bach's writing of chords dramatically by randomly cutting out notes, but what's even more important (though an obvious mistake): he left out five bars of that Suite's Prélude altogether.

The early editions: Dotzauer, Grützmacher and Stade

Curiously, after the *Janet et Cotelle* edition, another three editions appeared in quick succession within the next three years.



Year	City	Editor	Publisher
1814	Paris	Louis-Pierre Norblin (1781-1854) - First edition	Janet et Cotelle
1825	Leipzig	almost verbatim copy of Janet et Cotelle	H. A. Probst
1826	Leipzig	J.J.F. Dotzauer (1783-1860) - Second completely new edition	Breitkopf & Härtel
1827	St Petersburg	Lost	Richter?
1831	Leipzig	reprint of the Probst edition	Fr. Kistner
1853	Wiesbaden	R. Schumann - lost with the exception of the 3rd Suite	Breitkopf & Härtel
1864	Leipzig	Friedrich Wilhelm Stade - Third completely new edition	Gustav Heinze
1866	Leipzig	Fr. Grützmacher (1832-1903) - Fourth completely new edition	Edition Peters

Figure 3: Early Editions

Excluding reprints, only one of them would qualify as a new edition, the 1826 print by Justus Johann Friedrich Dotzauer (1783-1860), published by Breitkopf & Härtel. Dotzauer was a well-known cello teacher and an active performer. His edition is conservative but helpful, instructive without being innovative. He started off following the principles of the first edition but, when at a crossroads, sought help from Kellner's manuscript. He also made numerous corrections following his own musical common sense. In essence, Dotzauer's reading is perfectly adequate, if not exactly awe-inspiring. His edition is available in reprints even today.

It took nearly forty years, an unusually long pause in the history of the Bach Cello Suites editions, until the next new edition surfaced, not by a cellist but an organist and composer, by the name of Friedrich Wilhelm Stade (1817-1902). The year was 1864, the city Leipzig and this was the first published edition with piano accompaniment. Stade edited the cello part and composed the accompanying piano part. Like Norblin in the first edition, he changed the names of *Suites* to *Sonatas*, he also copied Norblin's tempo markings and movement titles loyally and that included the mystifying renaming of the *Bourrées* in the Third and Fourth Suites to *Loures*. He altered Norblin's bowings frequently and added staccatos and accents liberally. New features of this edition are Stade's somewhat intriguing fingering and bowing instructions. Their confident frequency suggests some assistance from an unnamed

cellist collaborator, yet from a practical point of view, they do not make much sense. His intention with the additional piano part was most probably to popularise the Suites.

Did the Suites need popularising? According to common belief of the day, they did.

"During the nineteenth-century… it was believed that the public needed an aid to facilitate their understanding of the music and saw the solution in providing accompaniment to the Solos. The result of this was the publication of innumerable transcriptions as well as newly composed piano accompaniments from the 1840s until the turn of the century."[7]

Undisputed masterpieces as they are, Bach's violin and cello Solos were considered little more than technical aides, studies (hence the frequent title: *etudes*), possibly bravura pieces. Individual movements from them to be played alone as a warm-up at the beginning of a concert or at the end of it as an encore, rather than complete works demanding complete performances.

Friedrich Grützmacher (1832-1903) was one of the rare artists who often played the Suites in his concerts. (It is an urban myth that Pablo Casals was the first cellist to perform a complete Bach Suite in a concert.[8]) He was a regular touring artist, apart from his job as Principal Cellist in the Dresden Hofkapelle. He worked tirelessly to disseminate the works of Bach and Boccherini as well as those of his contemporaries like Mendelssohn and Schumann. His artistry was considerable, his belief in his own judgement perhaps even greater. In a letter to his publisher, Edition Peters, he famously stated:

"Some great masters like Schumann and Mendelssohn have never taken the time to notate all the indications and nuances necessary, down to the smallest detail . . . .

[7] D. Fabian, "Towards a Performance History of Bach's Sonatas and Partitas for Solo Violin: Preliminary Investigations'," *Essays in Honor of László Somfai: Studies in the Sources and the Interpretation of Music* (2005). 4

[8] Allgemeine musikalische Zeitung: Grützmacher, "Berichte. Dresden, Ende April [Fünf letzte Abonnementconcerte: Mozart, Haffnerserenade, Wagner, Vorspiel zu Die Meistersinger von Nürnberg; Herr Reinecke (Pianist). Kammermusik-Soiréen der Herren Lauterbach, Hüllweck, Göring und Grützmacher. Triosoiréen der Herren Rollfuss, Seelmann und Bürchel. Zweiter Productionsabend des Tonkünstlervereins: Herr Blassmann. Dritter Productionsabend: Herr Concertmeister F. David. Vierter Productionsabend: L. Hoffmann, neues Streichquartett, S. **Bach, Suite für Violoncello solo; Herr Grützmacher**, Herr A. Reichel (Pianist; Schluss folgt)]," *Allgemeine musikalische Zeitung* II, no. 22 (1867). 178

My main purpose has been to reflect and to determine what these masters might have been thinking, and to set down all they, themselves, could have indicated . . . I feel I have more right than all the others to do this work."[9]

In fact, due to Herr Grützmacher's artistic liberties, sometimes it is rather difficult to recognise the original work once he had finished editing it. In the case of the Bach Suites, the changes he proposed are as profound as they are rhapsodic: notes, rhythms, harmonies are altered as a matter of course. Brahmsian hemiolas appear where Bach's music could not possibly imply any. The dynamic contrasts are worthy of a Tchaikovsky symphony; sudden off-beat accents remind the listener of a late-Romantic composer at his eccentric best rather than the Cantor of the Thomaskirche.

Here is a short example, taken from first Dotzauer's and then Grützmacher's edition, demonstrating the latter's propensity for passionate contrasts and altered notes. (2nd Suite in D minor, Gigue)

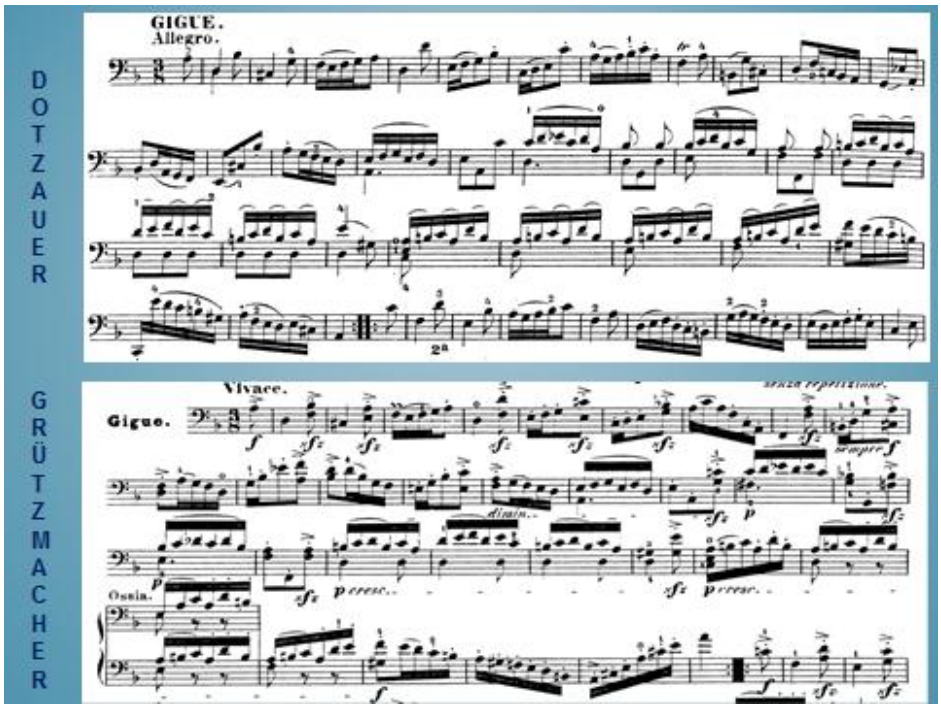


Figure 4: Dotzauer, Grützmacher

[9] Dimitry Markevitch, *Cello story* (Princeton, N.J: Summy-Birchard Music, 1984). 62, no formal attribution

Grützmacher's wildest innovation was perhaps the reduction of several movements of the Fifth and the Sixth Suites (for example, the Prelude of the C Minor Suite became an anorexic 190 bars long instead of the original 223, once he completed his cavalier editorial work.)

The question is obvious: why did he do it? Or to put it less politely: how did he dare? Depending on one's level of benevolence and magnanimity, there could be two possible answers. We could agree that he did the very best he could in order to make Bach's name and compositions better known; he published and played the Suites in a version that he thought would appeal to the largest part of his audience on account of its extreme passion, dynamic changes and technical difficulties which made these compositions genuine "bravura pieces". Of course, if in a less generous disposition, we could be outraged at his arrogance, at his blindness to the serene beauty of Bach's music. After all, in the same letter, quoted before, he also wrote:

"I have reaped much success in presenting this edition in concert, something that would have been impossible with the bare original in its primitive state."[10]

In 1866 when Grützmacher's *Konzert Fassung* was published, the *Bach-Gesellschaft Ausgabe*, the original complete edition, was still thirteen years away, yet, the four main styles of future possibilities were clearly signposted – if not ideally executed. All future editions followed one of these alternatives. We have Norblin's work, trying to be "scholarly", following the available sources loyally but without a critical eye or much practicality. We also have Dotzauer's carefully calibrated "practical" view on the Suites; intelligent and playable it is - exciting it is not. If excitement is needed, there is plenty of that in Stade's edition, representing the "alternative" with its additional piano part, rather erratic bowings and somewhat forced character of "chamber music"; or we can go to the extremes of the "performer" in Grützmacher's edition with its touchingly extravagant instructions for all kinds of excessive articulations.

Approaches by the scholarly, the practical, the alternative, the performer... - what more could Dörffel have added to this impressive catalogue?

[10] Ibid.

Dörffel's Edition

In the introduction to the volume of the Violin and Cello Solos, Dörffel lists two manuscripts (Anna Magdalena and Kellner) and three early editions (the 1825 Probst edition which is a reprint of Janet et Cotelle, Dotzauer and Stade) as his sources. As far as the primary parameters are concerned, the notes and rhythms in his publication are a dependably sensible combination of the mentioned sources. Things get considerably more complicated when the articulation marks are being checked. The slurs in Dörffel's edition demonstrate a skilful if somewhat haphazard amalgamation of bowing suggestions based mostly on Anna Magdalena, Kellner and Dotzauer – and "spiced up" with his own additions for good measure.

There are extended passages (sometimes almost complete movements[11]) following Anna Magdalena's often unclear articulations as closely as possible, yet on many occasions Dörffel gives preference to the markings of Kellner or Dotzauer and occasionally to Janet et Cotelle[12]. A typical example to demonstrate his own contribution is in the *Bourrée II* of the Fourth Suite, the slurs of which had never appeared before in that, otherwise perfectly logical, order.

The reasons behind his choices are nowhere explained and some of them are rather quirky. Why, for instance he copied Kellner's – and only Kellner's – choice of notes (bar 79) and double trills (bar 86) in the *Prélude* of the Third Suite against all other sources is puzzling to say the least. The double trill has since found its way into many other editions – at least the obviously wrong "c" of the chord in bar 79 did not.

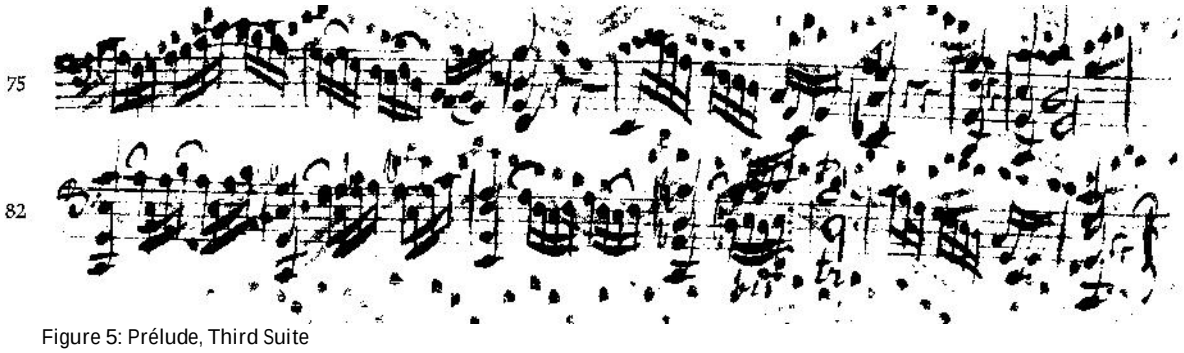


Figure 5: Prélude, Third Suite

[11] E.g. Allemande of the Third Suite

[12] Dotzauer himself was influenced heavily by both Kellner and Janet et Cotelle which complicates matters even further. However, there are numerous examples of original Dotzauer legatos finding their way into Dörffel's edition.

Dörffel did not make any effort to differentiate between the authors of various articulation marks; therefore it is no easy task to find out what slur originated with which particular source. This problem does not get any simpler in places where the introduced bowings are ostensibly his own – but coincidentally identical with an external, unnamed source.[13]

By modern standards, an edition like this would never qualify for the exclusive adjective "critical". In fact, Dörffel's often arbitrary method of choosing from the available sources is conspicuously similar to Dotzauer's approach more than fifty years earlier. However, we are discussing a publication from a time when musicology was a very young discipline and the accepted canons of performance practice were significantly different from those today. Dörffel did not decide by himself that the various articulation markings or their origins were of little importance. In his Preface, he freely admitted that establishing the correct notes and rhythms was his main aim, the inconsistencies of the bowings within and between the sources being impossible to resolve. According to his explanation,

"It is a good thing that for Bach the bowings and other markings referring to the Art of Performance are only of secondary importance. Bach, unlike the performers, was never pedantic: he respected the performer's artistic sense and intelligence and thus provided him with as few instructions as possible."[14]

Little did he realise that with this somewhat careless sentence, he opened the floodgates for a second major epoch of the Bach editions. Since it was thus announced - and by a highly respectable source! - that „Bach wasn't pedantic" about the articulations or other markings, anything and its opposite became possible. For the next seventy years or so, about twenty-five new editions attempted – mostly without scholarly restrictions - to create the ideal edition of the Bach Suites. Their unique ways of interpreting Bach's ideas were not necessarily aiming to understand the original sources better than anyone else before. Nor does the lack of an autograph or the incessant contradictions between the four eighteenth-century manuscripts explain the incredible variety of technical and artistic solutions. In the next decades following Dörffel's edition the available manuscript sources received

[13] Third Suite Prélude, bars 37-60 exactly following Westphal's (C) articulation.
[14] "Es ist gut mit diesen Stricharten und sonstigen Bezeichnungen, welche die Kunst der Ausführung betreffen, nur ein nebensächlichen Punkt bei Bach berührt wird. Denn Bach war dem ausführenden Künstler gegenüber nie peinlich: er liess ihm, seiner Einsicht und seinem Kunstsinn, die vollste Freiheit und gab ihm deshalb so wenig als möglich Vorschriften." ABGA, XXVII/1, PXIV.

only occasional interest. It was not until the dawn of the early music movement which coincided with August Wenzinger's ground-breaking edition in 1950 that what we might describe as the third phase of the Suites editions began. This epoch – while still producing some remarkably whimsical "performers' editions" – was and is increasingly defined by a scholarly approach, the commitment to comprehend Johann Sebastian Bach's intentions as closely as possible. The flow of new editions is yet to ebb and that can mean only one thing: the Holy Grail of the perfect Bach Cello Suites edition has not been found.

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The Left Hand Pedagogy of Violinist Jan Sedivka

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Jan Boleslav Sedivka was widely regarded as one of Australia's leading violinists and string teachers. He was born on 8 September 1917 in Slany, Czechoslovakia, a small town approximately thirty kilometres north-west of Prague. He died in Hobart, Australia on 23 August 2009. After holding influential violin teaching posts in London (1949-1961) and Brisbane (1961-1965), he became Lecturer in Violin and Chamber Music at the Tasmanian Conservatorium of Music in 1966. From 1972 to 1982 he was the Director of Music of the Tasmanian Conservatorium of Music, at the University of Tasmania.[1] In 1982 Sedivka became the Master Musician in Residence at the same institution, a position he held for over two decades.[2] Elinor Morrisby recently published a biography of Sedivka and states that his

"influence on string playing in Australia has been profound. He has enriched ensemble playing in incalculable ways, and in the music world has become a legend in his own time…Many of his students hold positions in Australian and European Orchestras; many more teach in music establishments or universities throughout the country."[3]

Sedivka's early attraction to the violin began when, as a small child, he heard a visiting student perform. This encounter ignited a passion and provided him with the motivation to explore the violin. After some time at the municipal school, Sedivka was accepted for study with Zigmund Polášek, a pupil of Otakar Ševčík (1852-1934). After less than two years tuition with this teacher, it was suggested that Sedivka should meet Otakar Ševčík (then 76).[4]

Sedivka studied with Ševčík from 1927-1931 and following this, graduated in 1938 from the Prague Conservatory with the highest honours from the Master School of Professor Jaroslav Kocián (1883-1950). Kocián "was considered the most

[1] The Tasmanian Conservatorium of Music became a part of the University of Tasmania in 1981, before this, it was within the Tasmanian College of Advanced Education.
[2] Within the Faculty of Arts.
[3] Elinor Morrisby, Up is Dow, A Life of Violinist Jan Sedivka, (Melbourne: Lyrebird Press, 2008), 171.
[4] Philip Borer, Aspects of European Influences on Violin Playing and Teaching in Australia (Hobart: University of Tasmania, Masters of Music Thesis, 1989), 133.

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accomplished and characteristic exponent of the Ševčík school."[5] Kocián also taught the violin virtuoso Joseph Suk (b. 1929) at the Prague Conservatory.

Sedivka's final pedagogical influence of a formal nature occurred during a special course in violin studies and pedagogy, undertaken between 1942 and 1945 in England, with Max Rostal (1905-1991). Rostal was a British violinist of Austrian birth, who studied with Arnold Rose in Vienna, and Carl Flesch in Berlin. In the 1920s Max Rostal was considered to be "[Carl] Flesch's most brilliant student."[6] Rostal also taught Yfrah Neaman (b. 1923), Igor Ozim (b. 1931), and members of the Amadeus Quartet (founded in 1947). Along with his acclaim as a soloist and teacher, Rostal established the European String Teachers' Association in 1974. This institution was to provide teachers with an avenue for the "exchange of information on the technique and teaching of string playing."[7] The impact on string performance and pedagogy of Rostal has been well documented and he was considered "in his manner of thinking and teaching – most like his late master [Flesch]."[8]

In summary, as a student Sedivka was subject to wide-ranging influences from the highly ordered and technically-based Ševčík school, to Kocian and finally, in England, by Max Rostal, of the Flesch and Ševčík schools. There can be no doubt that these influences helped to shape Sedivka's own pedagogy, however he "cannot be classified as a disciple of Ševčík, Kocian or Rostal"[9] as he "was sceptical of any single wisdom."[10] This article will outline the unique aspects of Jan Sedivka's left hand teaching in the context of other great masters of violin.[11]

A wealth of original views regarding Sedivka and his teaching were gleaned through the combination of the author's own experiences as a student, the observation of many lessons and classes, a preliminary written questionnaire and an extensive series of oral interviews. The names of the interviewees have been withheld due to the provision of privacy, and thus have been identified by number only.

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[5] Boris Schwarz, Great Masters of the Violin (New York: Simon and Schuster, 1983), 399.
[6] Schwarz, 341.
[7] Noël Goodwin, "Rostal, Max," in The New Grove Dictionary of Music and Musicians, 2001 ed.
[8] Schwarz, 342.
[9] Morrisby, 167.
[10] Stemler, "Sedivka Perspectives", personal notes from Leon Stemler, Sedivka Collection, quoted in Morrisby, 167.
[11] As three of the twentieth centuries most celebrated volumes on violin pedagogy, the texts of Leopold Auer, Ivan Galamian and Carl Flesch were consulted in depth.

Pedagogy broadly encompasses the science and art of teaching. Paul Ernest, a modern educationalist, has said that "pedagogy is merely a theory of techniques for achieving the ends of communicating or offering the selected knowledge or experiences to learners in a way consistent with [certain] values."[12] Sedivka's notion of pedagogy ran tangentially to this definition. Pedagogy was once described by him as, "how to make playing the violin complicated, if not impossible, and then how to overcome the manufactured complications."[13] On another occasion Sedivka stated that "learning to play the violin is not the attainment of information, but rather is the discovery of what one already knows."[14] While such statements may have been said in jest, they contain kernels of truth and therefore help illustrate and typify the individual and perhaps idiosyncratic nature of Sedivka's pedagogical belief system.

It became apparent from many hours of observation, reinforced by the results of the preliminary questionnaire and interviews, that Sedivka's teaching was pervaded by the passion to make violin playing easier. The easier the control over the instrumental mechanics of the violin, the easier it was to achieve the aim of 'excellence of musicianship.' Sedivka believed, in agreement with Flesch[15] and Galamian[16], that technique is the means for acquiring this end; his principal goal to find the most natural and appropriate technique for each individual. One student described Sedivka's understanding of technique as the following:

"It is a means to an end, which is the final expressiveness on the violin; to make the instrument and preoccupation with instrumental difficulties as unimportant as possible and as easy as possible, in order to get to the expressiveness of the music. However, he is fascinated by technique as something to think about, and intellectually gets excited about issues of technique."[17]

Many schools of violin playing require the rigid adherence to a set of predetermined technical and musical formulae. This research revealed, however, that Sedivka did not require this type of strict regime and did not transform students' technique in his own image. Rather, he built and moulded personal

[12] Paul Ernest, "The One and the Many" in Leslie P. Steffe and Jerry Gale, eds, Constructivism in Education (New Jersey: Lawerence Erlbaum Associates,1995), 484.
[13] Violin lesson, Jan Sedivka and author, 7 April 1998, Conservatorium of Music, University of Tasmania.
[14] Violin lesson, Jan Sedivka and author, 10 June 1998, Conservatorium of Music, University of Tasmania.
[15] Carl Flesch, The Art of Violin Playing, vol. 1 (New York: Carl Fischer, 1924), 8.
[16] Ivan Galamian, Principles of Violin Playing and Teaching (London: Prentice-Hall, 1962), 5.
[17] Respondent 3, interviewed by author, 23 February 2001, sound recording.

characteristics already present but perhaps underdeveloped. One former student stated that "I have had lessons before [my time with Sedivka] where I came out with a bow arm that looked like everyone else's, except I could not do anything with it!"

Left Hand

An area of technique that emerged as consistently central to the teaching of Sedivka was the mechanism of the left-hand. Sedivka was fascinated by the fact that string players are required to use the four fingers of the left-hand in an equal way, despite the fundamental anatomical differences between those fingers. Sedivka believed that one has to counteract the innate differences in order to efficiently and ergonomically accommodate the fingerboard and also violinistic repertoire. He was surprised by the lack of understanding and common sense that most intelligent musicians and schools apply to the fingers' use. Sedivka would often say that many schools of violin pedagogy did not incorporate the use of the fourth finger in the rudimentary teaching of the left-hand.[18] This belief does not contain the whole truth as pedagogues such as Rolland, did begin early tuition with the use of the fourth finger. In Sedivka's opinion, not incorporating the fourth finger lead to a common lack of facility in this finger. Sedivka commonly made an analogy between the four fingers and the legs of a quadruped, and would remark "does a doggie begin his life with three legs and grow a fourth when he is older and wiser?"[19]

The general problem with the use of the fourth finger, in Sedivka's opinion, was its shape, angle and position in relation to the balance of the hand. In most instances the hand is oriented and balanced around the first two fingers and the fourth is left to stretch for its notes. A former student remarked that "Sedivka would always joke with me about my Suzuki background, particularly with my hand being oriented towards fingers one, two and three, not two, three and four."[20] It could be stated that Sedivka believed that if the orientation was shifted to the second and third fingers the hand could be balanced, and could play each note of the hand position in an equal way. This coupled with, increasing the amplitude and decreasing the radius of the fourth finger, allows the finger to have a weight behind it that is relative to that of the other three fingers. John Curro, a student of Sedivka from 1961, documented

[18] For example, the original editions of the Suzuki method did not incorporate the fourth finger until the student was half-way through book one. The revised edition published in 2007, however, incorporates its use in preliminary exercises before the first piece.
[19] Violin Lesson, Jan Sedivka and author, 10 June 1998, Conservatorium of Music, University of Tasmania.
[20] Respondent 8, interviewed by author, 13 March 2001, sound recording.

the principle of left-hand balance in his article "Upbeat and Focus" in the *Festschrift Jan Sedivka* volume. Curro stated

"The four fingers vary in size and strength on every hand, although the variations are not always of the same degree in every hand. No amount of finger exercises will alter this relative difference but only increase the efficiency of each finger to its maximum possibility. In order to play fast brilliant passages with maximum clarity the thumb should assume a compromise position so that it helps to support the fourth finger, which is the weakest. This means that it will leave the other fingers slightly weakened and gives a resultant evenness of strength to all four fingers". [21]

Sedivka employed the analogy between quadrupeds and the left-hand extensively, and insisted that a 'doggie' would not voluntarily walk with its weight on the front legs and drag the hind legs. However, violinists do it all the time. Sedivka also related the human legs and body to the action of the left-hand; "the hips are like the knuckles, and the legs are like the fingers; we do not walk with our hips behind our legs, we walk with them above, so why does one play in this manner!"[22]

Further illustrations of Sedivka's method of teaching left-hand technique can be gleaned from the quotes documented below. Sedivka said

"We have four fingers, right? How many legs do we have? Two, yes? How many fingers? Four. We must treat our left-hand as a little chimpanzee might. A quadruped would not walk comfortably on two legs and then strain and stretch the other two to take more steps. No, he would balance the body on all four legs and rest the body on all four legs. We must shift the body of the hand to rest 'in four legs.'"[23]

"We must use doggie intelligence, and learn to think like a quadruped not a biped."[24]

Finding the most effective and balanced orientation of the left-hand fingers, coupled with effective thumb placement defines hand position. It could be documented that Sedivka did not view the role of the thumb in abstraction, but rather viewed its role in relation to the position of the fingers. Sedivka's notion of the role of the thumb was that

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[21] John Curro, "Upbeat and Focus" in Festschrift Jan Sedivka,David Mercer, ed., 8.
[22] Violin Lesson, Jan Sedivka, 21 May 1998, Conservatorium of Music, University of Tasmania.
[23] Ibid.
[24] Violin Class, Jan Sedivka, 23 March 1998, Conservatorium of Music, University of Tasmania.

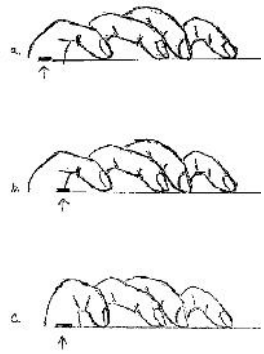
"the thumb plays the role of the fulcrum. It supports and counterbalances what the fingers are doing. For example, if the fingers go down the thumb must go up, if the fingers go to the left the thumb must go to the right and vice versa. You need to decide where to put the fingers and then work out where the thumb should go. If you want to pull your ear you don't think first where the thumb should go, you just do it!"[25]

Through observation, the author gleaned that Sedivka's opinion of the position of the left arm was found according to the assumed position of the hand and arm. For example, if the hand is executing a phrase on the 'g' string in first position, that is to the left side of the fingerboard, the arm must accommodate this configuration by assuming an attitude to the right of the neck of the violin. In this way the integrity of the hand, wrist and arm position is maintained.

Finger Organization

Linked with left-hand and arm position, and the use of the thumb, is the execution of finger extensions either with the first finger 'back' or the fourth finger 'up.' In Sedivka's view, the key to the extension was the height of the hand, arm and wrist in relation to the fingerboard. The lower the hand, or the lower the level of the knuckles, the wider apart the fingers naturally fall and therefore do not need to be 'stretched.' Sedivka would often physically manipulate a student's hand placement to demonstrate this concept. Whilst doing so, he would ask that "its not stuck together with pins is it,"[26] with regard to the inflexibility often encountered, and in an effort to induce muscle release in the hand. Also related is the device "opening-up the hand backwards" to execute an extension, instead of employing a discrete shift.[27] The diagram below shows a. a left hand in first position, b. in half position, having executed a shift and c. in half position "having opened up the hand backwards."[28]

[25] Violin Lesson, Jan Sedivka and author, 11 August 1999, Conservatorium of Music, University of Tasmania.
[26] Violin Lesson, Jan Sedivka, 11 August 1999, Conservatorium of Music, University of Tasmania.
[27] Respondent 8, interviewed by author, 13 March 2001, sound recording.
[28] Diagram adapted from pictures of left hand position in Rolland, Prelude to String Playing, 1971.



Sedivka related the extension and the hand position to a flower:

"The hand is a little like a flower: at the base everything is small. We hold the thumb in close to the palm. As we go higher up the fingers stretch out. We always try to do the opposite!"[29]

The vertical action of the left-hand fingers is fundamental to playing the violin. The action not only allows the note to be 'played,' but contributes to precisely how the note is played. The tone and intonation are affected when a finger's weight, shape and angle are altered. It was apparent that, in Sedivka's opinion, the notes produced by the fourth finger are often inferior due to the inadequacy of their use.

Finger pressure affects intonation, tone quality and the dynamic of any particular note. To effect a note with 'good' tone and intonation, the note must have an appropriate weight. This weight, according to Sedivka, originates in the finger, the hand, the arm and the shoulder, and requires a balance of energy in a downward and in an upward direction. Mono-directional pressure and weight can only lead to the tightening of the left-hand.[30]

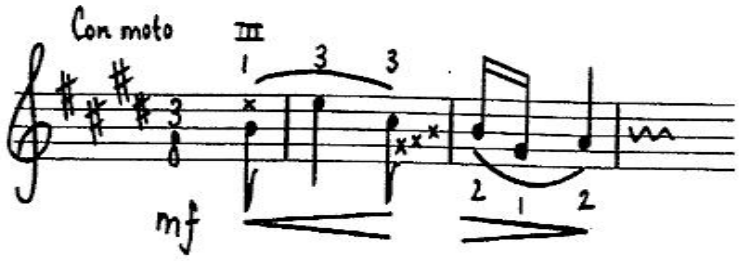
Sedivka promoted an "even finger pressure throughout the hand."[31] This was coupled with the balance of the hand; lessening the pressure of the first finger; and increasing that of the fourth finger. Finger pressure also relates to tone production. Obviously the bow is a major factor in tone production, however "the varying

[29] Violin lesson, Jan Sedivka and author, 17 August 1999, Conservatorium of Music, University of Tasmania.
[30] Violin lesson, Jan Sedivka and author, 30 March 1998, Conservatorium of Music, University of Tasmania.
[31] Respondent 8, interviewed by author, 13 March 2001, sound recording.

pressures of the bow and the left-hand, and the infinite variation of the two, are crucial to the better understanding of the tonal possibilities of the violin."[32]

Finger Organisation

Another area central to the pedagogy of Sedivka was the organisation of the fingers of the left-hand. A former pupil stated that "finger organisation was ninety percent of what he talked about."[33] Any musical phrase dictates a sequence of pitches to produce the required 'tune.' For example, the opening of the Ballade of Jánaček's Violin Sonata, requires the violinist to play the sequence b', e", c#", b', g#', a'. In Sedivka's opinion, to order the fingers in the same way as the composer, is not the most economical approach, nor will it produce the best results.



If, instead, the fingers are placed in the progression, b', e" then c#", g#' and b', concurrently, with the final a' prepared in the hand but not placed on the fingerboard until the after g#' semiquaver (as indicated by the x's in the diagram above), the sound of the action of the left-hand will be 'cleaner.' Also, this change in finger organisation requires less movement and is, therefore, more economical.

It could be argued that Sedivka's theory on hand position, like that of Flesch, is to prepare as many notes as early as possible. However, if the music dictates that a certain note cannot be placed on the fingerboard (due to the necessity of playing a lower note on the same string), in many cases Sedivka promoted that the position be 'felt' in the hand. The objective of early preparation is to reduce the number of movements in the hand and therefore increase the ease of execution and cleanness of action. Sedivka believed that there were "two sequences involved with playing a note or a grouping of notes: firstly, one has to prepare the mind and the body; and secondly one plays the note."[34]

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[32] Ibid.
[33] Ibid.
[34] Violin Lesson, Jan Sedivka, 11 August 1999, Conservatorium of Music, University of Tasmania.

The key area of violin technique, 'holding the fingers down,' is associated with the issue of finger organisation. Notes in a descending sequence are produced by "the action of lifting the preceding note"[35] and, therefore, the 'new note' must be in place on the fingerboard before preceding note is played. It appears that, in agreement with Flesch, Sedivka's view was that the fingers should be left in place so that the action required to play a specific phrase is minimised. If, however, the freedom of the hand was inhibited by the act of leaving the fingers down, for example in an extension, the fingers should be released.[36]

An important correlation exists between the organisation of the left-hand fingers, their early preparation, and the necessary horizontal action (action of moving the fingers left to right, and right to left across the fingerboard). Sedivka's viewpoint of the 'horizontal action of the fingers' was that this area is often lacking in a player's left-hand technique. For example, in an examination report of a former student, Sedivka wrote that "the knowledge of the vertical distances on the fingerboard is considerable, however, the knowledge of the horizontal distances is almost entirely lacking."[37] Traditionally, students are rigorously trained in the two-dimensional movements of the left-hand: the 'up and down' of the fingers in the one position and the 'up and down' of the fingers along the length of the fingerboard. Rarely do methods discuss the need for the players' intimate knowledge of the horizontal distances of the fingerboard.[38]

In Sedivka's point of view the timing of the action of the left-hand fingers was crucial to the technique of the left-hand. If the timing is miscalculated, corresponding inaccuracies of intonation, finger pressure, and finger organisation can result: "the timing is everything."[39] A former student stated that "if I had to sum it up, I would say his genius is in helping one to make discoveries about the timing and focus of movement, within the mechanics of playing."[40]

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[35] *Violin Lesson, Jan Sedivka and author, 15 February 1999, Conservatorium of Music, University of Tasmania.*
[36] Ibid.
[37] Former Sedivka student, Masters examination report, June 1998.
[38] For example when looking at a shift from the first to the third position, say from a first finger 'b' on the a string to a third finger, 'c#' on the e string, the first finger must understand not only the movement from first to third position, but the movement from the a to the e strings.
[39] Violin Lesson, Jan Sedivka and author, 1 March 1999, Conservatorium of Music, University of Tasmania.
[40] Respondent 3, interviewed by author, 23 February 2001, sound recording.

Fingering and Position Changing

'Fingering' was an area of constant inquiry in the pedagogy of Sedivka; never would he prescribe a definitive fingering for any given phrase. Fingering can be examined as a technical means, as a means of expression, and as a means for colouring. From a purely technical perspective, Sedivka, like Galamian, was guided by the principle that a musician should have the facility to execute a phrase with any desired fingering. In this way, Sedivka believed that if a performer does not have the facility to play a phrase with a specific fingering, that fingering then becomes the most appropriate choice, in order to gain the required technique. It could be recorded that students of Sedivka often found themselves bombarded with countless fingering permutations. "I have been amazed at how fingerings seemed to pour out of him, like water out of a tap."[41] A prominent former student of Sedikva stated that

"His knowledge of fingerings was phenomenal. We had multiple fingerings for passages. I would be sent away to decide which one I wanted to use and how I could do it. There was a big emphasis on fingering and, in fact, I think this is a very important part of his teaching."[42]

Coupled with fingering is the key area of violin technique 'position changing,' another topic that appeared to be fundamentally important to Sedivka. Galamian defined position changing as the "action of the entire arm and hand, including all of the fingers and the thumb. The flexibility of the thumb, important for all facets of the left-hand technique, was nowhere more essential than in shifting."[43] An alternative definition of position changing could be "the action of gliding with the third finger from the first position to the fourth position, using the first finger as a fulcrum and moving the distance of a perfect fourth."[44] As documented earlier, and in contrast to these definitions, Sedivka would refuse to be prescriptive and, would simplify the action by asking the student if they could "scratch their nose, with the left-hand."[45] Sedivka would emphasise that the action of position changing and nose scratching was identical.

[41] Respondent 6, interviewed by author, 11 March 2001, sound recording.
[42] Respondent 8, interviewed by author, 13 March 2001, sound recording.
[43] Galamian, Principles of Violin Playing and Teaching (London: Prentice-Hall, 1962), 24.
[44] Sedivka associate, conversation with author, 23 June 2001.
[45] Violin Lesson, Jan Sedivka, 19 March 1999, Conservatorium of Music, University of Tasmania.

The technique of position changing encompassed a considerable number of facets that Sedivka incorporated into his teaching. However, his primary concern with shifting appeared to be with the fact that many musicians did not incorporate the shift as an integral part of a musical phrase, instead, choosing simply to execute the action. Sedivka often commented that he would hear "note – oh my goodness shift – new note," as opposed to a "note, linked with a beautiful expressive device and then another note."[46] There are several reasons for this phenomenon; one of these is that, Sedivka believed that musicians often leave the shift too late, or in other words the timing of the position change was not appropriately considered. To this end, Sedivka related the story below:

"Moving to the Door; If you want to leave a room you don't think right leg, one step forward, then left leg 'Oh my goodness I can't move my legs', you think 'door' and the subconscious proceeds to get you to the door. We should do this when we play, however we think 'note' then 'shift' then 'new note' – it is stupid!"[47]

As outlined in connection with the use of the fourth finger, Sedivka often remarked on the many oversights in the early years of string teaching. He would say that position changing was often taught after a few years of lessons, rather than included as an integral part of learning to play the violin.[48] Sedivka sometimes described the "note – oh my goodness – note" derogatorily as "AMEB position changing."[49] With regard to position changing, *portamento* and *glissando*, Sedivka stressed the importance of the release of the left-hand and often used demonstration as an important element in the teaching of these techniques.[50]

The framework for Galamian's discussion of position changing, incorporates four types of shift.[51] It was apparent that Sedivka would leave the choice of type of shift, as he did with most musical considerations, to the individual's style and taste. As expressed by one former student: "he would leave that kind of musical inspiration as a very personal thing between the student and the rest of the world."[52] However,

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[46] Violin Class, 15 March 1999, Conservatorium of Music, University of Tasmania.
[47] Ibid.
[48] Interestingly, as with the use of the fourth finger, the revised edition of the Suzuki method has brought the introduction to position changing from Volume 4, to Volume 2. In addition, other pedagogues such as Rolland incorporate preparatory shifting exercises at the commencement of tuition.
[49] Violin Lesson, Jan Sedivka, 1 June 1999, Conservatorium of Music, University of Tasmania.
[50] Respondent 8, interviewed by author, 13 March 2001, sound recording.
[51] Galamian, 24.
[52] Respondent 3, interviewed by author, 23 February 2001, sound recording.

Sedivka encompassed all types of shift in the notion that the player must always prepare for the context of the new note and new position early. For example, Sedivka would remind a player to shift on the string of the new note. Also, if a change of position was to include a change from first position to fifth position, the new context required the left arm and elbow to be to the right, and closer to the body. It appeared that Sedivka's conviction was that the new context should be assumed at the outset of the shift, not while the shift is in progress. Another example was that the hand must attain the position of the new group of notes, preceding the shift, not after the new position has been attained.

Double-stops, the knowledge of the horizontal distances on the fingerboard, finger organisation and timing are interrelated themes of left-hand technique. Consequently, a considerable number of the principles above can be applied to Sedivka's understanding of double-stops. Double-stops were often used by Sedikva to improve a performer's finger organisation and the early preparation of notes. A former pupil commented, with regard to double stopping, that "the notion of diagonal distances in the hand, predicated on the positioning of the hand further back than just the fingertips, was another revelatory thing in his teaching."[53] In addition, Sedivka often related the mechanics of double-stopping to how certain animals use their legs:

"We play octaves like a kangaroo with a walking stick; the two fingers are the legs and the thumb is the walking stick, supporting the legs. Thirds and fourths; like a camel."[54]

Vibrato

Galamian's text describes three types of vibrato (arm, wrist and finger) that a performer should be capable of using interchangeably, and be able to vary at will, in the service of expression.[55] Sedivka's views on vibrato appeared to be similar, with the aim that his students developed complete control over their vibrato, and encouraged experimentation with vibrato types. [56] Sedivka saw vibrato as an essential expressive tool that should be used to highlight the tonal colours of a musical phrase. Galamian also discusses the use of vibrato within the context of

[53] Ibid.
[54] Violin Lesson, Jan Sedivka and author, 19 July 1999, Conservatorium of Music, University of Tasmania.
[55] Galamian, 37.
[56] Respondent 8, interviewed by author, 13 March 2001, sound recording.

stylistic considerations. For example, the music of Mozart would require less vibrato, than the music of Brahms. Sedivka did not subscribe to stylistic considerations alone, in accordance with the notion that 'nothing is absolute.' It appeared that for Sedivka a performance that was well considered, tasteful, beautiful and well executed, was more important than an emphasis on authenticity.

As with many other aspects of violin technique, vibrato did not escape Sedivka's relation to common, everyday events. Descriptions or visual images that he has used to describe particular types of vibrato include; "your vibrato needs to be like a little doggie on a short chain," when describing a fast and narrow action. When persuading a student to use a more continuous vibrato, Sedivka might say, "break your hand, my goodness,"[57] to encourage the student to work vigorously with the left-hand.

Technical Work

Instruction in scales was an area of technique that appeared to have evolved greatly throughout Sedivka's time in Australia. In the early days, Sedivka was described as being "a terribly tough teacher, very, very tough" as the expectation of good technique was incredibly high.[58] Students from this time, recounted that Sedikva required the practice of all scales, "the lot"[59] of studies and technical exercises.

In addition to the sheer volume of technical work covered, Sedivka insisted that the level of cerebral engagement in the activity was high. For example, he would ask students to play scales in an uncustomary fashion "D major in thirds, four down, two detached, three up," to ensure the constant engagement of the mind.[60] One student commented that "we would have to come up with as many ideas as he would on how to practice scales."[61] In this way the practice of scales and technical exercises were not merely rote repetitions of prescribed patterns of notes, but were also exercises for the development of the relationship between the mind and muscles or, in Galamian's words, the "correlation."[62] In Galamian's opinion it is this correlation that

[57] Violin Lesson, Jan Sedivka and author, 17 June 2001, Conservatorium of Music, University of Tasmania.
[58] Respondent 4, interviewed by author, 25 February 2001, sound recording.
[59] Respondent 8, interviewed by author, 13 March 2001, sound recording.
[60] Respondent 3, interviewed by author, 23 February 2001, sound recording.
[61] Respondent 8, interviewed by author, 13 March 2001, sound recording.
[62] Galamian, 6.

holds the key to complete technical control. One student describing Sedivka's technique classes remarked

"Oh, the technique classes were such fun in those days because one had to play in front of people and play seven notes to the bow and fourteen, fifteen, different rhythms, seventeen, twenty-four, three then five then three and four, upside down and backwards."[63]

Intonation and facility are the result of all of the areas of left-hand technique above. If a student has 'good' intonation and facility, the application of the left-hand technique has been successful. It appeared that Sedivka, like Galamian, believed that the performer must develop a highly sensitive ear and adjust according to individual situations and personal taste.[64] Sedivka discussed the notion of playing a note within the chord and thinking about intonation vertically, not merely horizontally.[65]

Sedivka's influence in Australia was immense and, through this research it came to light, that perhaps the biggest contribution was his profound effect on individual players. Of particular significance was the "revelatory" concepts of his left hand teaching, and the relationship between the legs of a quadruped and the four fingers of the left hand. One former student stated that Sedivka's "students are his most significant contribution to the Australian music industry; he has taught a lot of students who have themselves inspired a lot of students."[66] A very high percentage of the students and colleagues interviewed shared the opinion that Sedivka's input had caused a fundamental change to their playing, specifically left hand technique and had had a significant impact on their careers and lives. "He has influenced everything about my life in the music industry;"[67] "Jan Sedivka made me as a musician, without him – I would not be where I am today."[68]

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[63] Respondent 4, interviewed by author, 25 February 2001, sound recording.
[64] Violin Lesson, Jan Sedivka and author, 19 July 1999, Conservatorium of Music, University of Tasmania.
[65] Respondent 5, interviewed by author, 6 March 2001, sound recording.
[66] Respondent 12, interviewed by author, 11 June 2001, tape recording.
[67] Ibid.
[68] Respondent 13, interviewed by author, 11 June 2001, tape recording.

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Clear versus Correct: On the re-conceptualisation of judgments about intonation

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Introduction

This discussion of intonation is prompted by the striking unease with which this challenging topic is often approached by performers and pedagogues alike. While intonation is identified as one of the most central concerns for string players[1] agreement on what might define its quality seems by no means straight-forward or consistent. In fact, the judgement here can often be lop-sided. While we reach fairly ready agreement about poor intonation we often remain silent about good intonation.

The silence suggests that intonation can become the subject of a taboo where subjective fears and intuitions assert themselves without explicit reason or principle. There may be several reasons for this: Intonation is very immediate to the conception, hearing and experience of music. Confusing perceptions generate stress and undermine a capacity of clear thinking and articulation. Secondly, and as a topic of dispassionate discussion, intonation seems an immensely complex phenomenon requiring a scientific mindset. A disciplined discussion of the complexities of intonation is difficult to sustain and it is frequently unclear how aesthetic preference and objective attributes can be balanced. Thirdly, judgements about intonation are synoptic. They involve the selection of relevant information. Such selection may not be equally possible if our attention is variously engaged in the perception of musical expression or in the reflection about complex aesthetic characteristics of a performance. We simply do not divide our attention across all aspects of a performance at any one time in an equally balanced way. On reflection partial aspects and features may be singled out to explain a general sense of dissatisfaction with a performance. Intonation offers itself as a ready explanation at occasions where we may not have been captivated by the musical or expressive aura of a performance. In addition, we tend to treat intonation as a threshold issue: unless it disturbs us, we include it in our overall perception of a performance and do not single it out. When brought to consciousness by reflection and discussion we may

[1] Mantel, 9

Richter, Goetz. Clear versus Correct: On the Re-Conceptualisation of Judgments about Intonation. *String Praxis, Volume 2, No. 1, October 2013, 31-46.* © www.stringpraxis.com

not always be able to recall the precise nature of intonation or any reasons for our judgment but rather express general approval or disapproval of a performance in terms of this concept.

Such preliminary remarks indicate that a discussion about intonation among practicing musicians originates from a complex field of fundamentals that guide perceptions and judgments. Rather than tackle this complexity, musical practice often suggests that intonation should be self-evident: What could there be to discuss? If we nevertheless start to discuss intonation, what is the practical relevance of such discussion? Such questions rest on pragmatic foundations: Either we agree on intonation or we do not. If we do not agree, discussion will make no difference. In fact, disagreement may already imply a signal to disqualify one of the partners of the conversation who evidently "did not get it". There simply is no place for the question why we may have decided a particular intonation was good, average or poor. We seem to lack a platform and practical motivation for such discussions.

My argument starts from the proposal that such a position implies some serious challenges: If we treat intonation as self-evident and resist attempts to articulate our perception and explain our judgements, intonation becomes an issue of conviction, assertiveness and power. However, an exclusive reliance on ill-defined convictions and intuitions is undesirable for at least two reasons. Firstly, it undermines the purpose and methods of teaching and learning. The latter demand an explicit account how ability is formed by systematic and methodical progress. Method reflects a two-fold organisation of the subject matter and the potential response of the learner in mastering this subject matter. If the contextual account remains vague, a learner can at best achieve ad-hoc progress within a subject matter.

Secondly, attention is guided by knowledge. Being able to direct attention more consciously improves practice, teaching and learning. This will consequently improve skills. Knowledge, understanding and reasoning need not upset intuition unless the former claim absolute superiority. Instead, knowledge and rational inquiry guide and even inspire intuition. Both work in harmony if we observe with ease, resist absolute domination of always incomplete knowledge, question gently and guide thoughtfully.

Background

In order to forge a path into a complex issue I will initially discuss some mainstream pedagogical literature and its views on the topic of intonation. Following an outline of relevant acoustic fundamentals, I am additionally interested in more recent arguments by the German cellist and pedagogue Gerhart Mantel (1930-2012) about the psychological, artistic and pedagogical aspects of intonation which connect this issue with performance development and the dynamics of learning. In the second part of this paper I will explore these wider theoretical and

practical implications and I will argue for rigour in the categorisation of judgments about intonation. Rather than using an absolute distinction between right and wrong (or emotionally charged valuations about good and bad intonation) I will try to argue that intonation should be classified as either clear or confused.

Looking at the standard pedagogical literature for the violin we must feel puzzled by the lack of explicit or detailed engagement with the topic of intonation. While on one hand there appears to be wide agreement that pure intonation is perhaps "the most beautiful attribute of a good violinist"[2] and that intonation is perhaps the single most important topic string players will deal with[3], there is little explanation what is meant by "pure intonation" and even less clear or helpful advice how to deal with such a central topic methodically and productively. A case in point is Carl Flesch (1873-1944). In what remains a fundamentally reactive account Flesch emphasises that "pure intonation in the physical sense is an impossibility."[4] He concludes from this that the impression of good intonation results from a combination of alertness and rapid correction by the performer. Flesch relies on the argument that acoustic and physical demands of precision make it impossible for a finger to arrive at a precise and pure pitch and he concludes that

"so called pure intonation is thus nothing but an extremely rapid, skilled correction of the originally imprecise pitch. In case of faulty intonation the tone remains just as false during its entire duration as it was when conceived"[4]

While Flesch recognises many additional aspects of intonation such as the dependency of pitch on bow pressure and mentions the context dependency of pitch (ie. harmonic versus melodic intonation) his advice to students and teachers is simple: Since it is of utmost importance to train the ear to be as perceptive as possible and to note an impure note with the utmost irritation in order to motivate a rapid corrective reflex we need to purify the listening process by playing slowly and training the ear. Flesch recommends to

"let the pupil sustain every note (at best in a caprice by Rode in one of the sharp keys) as long as necessary to test its purity (without vibrato and if possible with the aide of open strings) until the conviction has been gained that the note is in tune. "[5]

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[2] Rostal, 22
[3] Mantel, 9
[4] Flesch, 10
[5] Flesch, 11

While Flesch's pragmatic advice may well lead to improvements it fails to cover significant aspects of intonation comprehensively. Flesch does not question for example whether slow playing may have different intonation requirements from fast playing. He also does not consider the issue of intonation in the ambivalent context of double stopping where melodic and harmonic orientations interface in challenging ways. Such critical questions aside, there is a more troubling aspect to Flesch's discussion. The psychology of increasing sensitivity and thus motivating faster correction of impure intonation on the basis of the thought that there is no such thing as pure intonation strikes me as conflicted. If there is no purity of intonation what then is all this fuss about? Ultimately, then, Flesch seems to promote an entirely reactive approach to intonation. He remains silent about any genuinely creative responsibility of the performer and replaces creativity with the concept of corrective adaptation. But the task is not simply to fudge and eventually play in tune, but to think, imagine and co-ordinate movements in advance of the outcome of playing in tune. Flesch's discussion of intonation finds satisfaction with the physical outcome of a certain pitch and its assessment. The player is reactive to the played note as an acoustic phenomenon. However, we must remember that this phenomenon is the result of conscious, mental and physical creative processes and actions which Flesch implies, but does not unravel. For performers and their thinking Flesch cannot be really helpful at all. Directing the performer towards a reactive consciousness of a critical listener Flesch does not consider what is required to conceive and create the pitch. This is, however, the genuinely creative work of the performer and of crucial interest to any teaching.

A different, but equally pragmatic answer to the question of intonation is given by Ivan Galamian (1903-1981). To be sure, Galamian connects intonation with the mechanical and geographical orientation of the fingers on the fingerboard. He stresses the development of our tactile and kinaesthetic sense and the importance of a left hand frame- and position but he, too, falls short of clearly identifying the creative importance of such conceptions in the anticipation of the playing. This is so despite the fact that Galamian refers to the importance of "correlation" (ie. the mental anticipation of playing and performance) elsewhere.[6] Instead and like Flesch, Galamian emphasises the need to adjust intonation reactively and concludes that

"a performer has to constantly adjust his intonation to match his accompanying medium. The artist must be extremely sensitive and should have the ability to make

[6] Galamian, 6

instantaneous adjustments in his intonation … and intonation adjustable to the needs of the moment is the only safe answer to the big question of playing in tune."[7]

Galamian leaves us with the simple advice that "the ear is always the final judge in deciding what is good and what is not."[8] His advice is general. But will it help method and assist systematic instrumental and musical development bearing in mind that pedagogy must look for methodical solutions which guide creative practice ahead of outcomes? Not only does Galamian not see reasons to discuss the physical and acoustic fundamentals which underpin decisions on intonation, he also leaves us with little practical advice beyond biomechanical and structural descriptions and the occasional reference to a relation between intonation, bow pressure and double stopping.

The Galamian School is nevertheless the source of some helpful, concrete advice on intonation which directs creative practice: Simon Fischer (following Dorothy Delay) refers to the importance of using perfect intervals (fourths, fifths, octaves) for the tuning of scale intonation[9] and advocates compromises for thirds and sixths. This refers us to a range of conceptual issues including a practical insistence on the derivation of leading tones in melodic solo playing from open strings (g# tending upwards to A, but also Bflat tending downwards to A). Fischer emphasises homogenous intonation on the basis of a derivation of pitches through perfect intervals (Octaves, Unisons, Fourths and Fifths) from the open strings of a string instrument. This creates definite relationships in the scale steps and uniform (large) whole and (small) half tone steps as will be shown further below.

Fischer's view has not always been universally accepted. The violin method by Joseph Joachim and Andreas Moser includes an extensive introduction dealing with the issue of intonation and in particular the issue of intervals and their frequency relationships[10] Joachim and Moser come to the conclusion that the intonation for scale intonation relies on two different whole tone steps (the so-called small and large diatonic whole tones). This view is shared by Sevcik in his *School of Intonation*. The concrete result of their views suggests a puzzling aural tradition to us. In order to clarify why this is so I will recall some acoustic fundamentals which need to underpin any discussion about intonation and should inform the conceptualisations of this complex topic

[7] Galamian, 22
[8] Galamian, 110
[9] Fischer, 197
[10] Cited in Mostrass, 110-119

Acoustic Fundamentals

The description of music and musical intervals has a long history derived from the Greek mathematician and philosopher Pythagoras. Pythagoras is credited with experiments on a monochord, an instrument consisting of a resonance body, a string and a moveable bridge. These experiments are said to have yielded the empirical insight that the length of the string which defines the musical pitch has a proportional relationship to the intervals created by the division of the string when moving the bridge. The following relationships between length of strings and resulting intervals are believed to have been established by Pythagoras:

1:1 – unison
1:2 – octave
2:3 – fifth
3:4 – fourth
4:5 – major third
5:6 – minor third
5:8 – minor sixth
3:5 – major sixth

It is important to note that this numerical relation describes the frequency relationship between relevant pitches. That is, to ascertain the pitch of the note which is a fourth above or below A 440 we multiply this frequency with 4:3 (ascending) or 3:4 (descending). Since it appears that pitches can be derived in a mathematical process of calculation as well as through a musical process of listening and playing, a relevant exercise suggests itself to construct musical pitches of the various tonal material (in particular scales) with the assistance of a frequency calculation. This leads to some strikingly ambiguous conclusions:

Calling the original frequency for simplicity's sake 1 and using only the first four intervals (unison, Octave, fifth, fourth) and variously combining intervals (eg. fifth up, fourth down) the following frequencies and frequency relationships are calculated:

D	E	G	A	B	D
1	9/8	4/3	3/2	27/16	2

If we calculate further the entire scales we arrive at the following structure:

D	E	F#	G	A	B	C#	D
1	9/8	81/64	4/3	3/2	27/16	243/128	2
	9/8	9/8	256/243	9/8	9/8	9/8	256/243

The substructure (ie. the whole and semi-tone steps which separate the individual steps of the scale) appears a combination of two homogenous tetra-chords as the second line indicates.

If we use all intervals of the Pythagorean division including thirds and sixths we arrive at the following scale and substructure:

D	E	F#	G	A	B	C#	D
1	9/8	5/4	4/3	3/2	5/3	15/8	2
	9/8	10/9	16/15	9/8	10/9	9/8	16/15

It is immediately clear that this results in a scale with two different kinds of whole tone steps and a half tone step which seems rather large (16/15).

These derivations can become audible provided the instrument is carefully tuned in fifths (without a beat) and the derivation progresses in slow speeds, accepting in the second example only thirds that sound without a beat. This method leads to the pitches of (1) the "Pythagorean" scale thus:

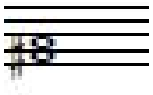
and in similar manner the pitches of (2) the "just" scale:

It is clear that (1) refers to the Delay-Fischer view while (2) underpins some of Joachim's and Sevcik's thinking. The derivation of the major third F# via a natural third (F#-A) leads to a small interval and to a smaller whole tone step E-F#. If the scale intonation is constructed in this way, we face a heterogeneous structure within the two tetra-chords. The Pythagorean scale has the advantage of being based on homogenous tetra-chords and does dispense with the two types of whole tones in favour of one standard, large whole tone and a small semitone. It conforms to the Delay-Fischer methodology of using perfect intervals only (fifths, fourths, unisons and octaves) to tune scale steps.

The Syntonic Comma

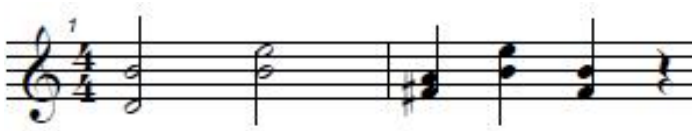
The differences outlined above are clearly audible. They describe in great brevity a phenomenon which is crucial to violin intonation and known as the "syntonic comma". The syntonic comma is the difference between a just and a Pythagorean major third. It is the difference which describes our decision to play melodic major thirds wider while playing them narrower in the harmonic context. This difference is also relevant to minor thirds and, of course, by implication to major and minor sixths.

Within a harmonic context (eg. as a slow or continuously repeated third), performers instinctively and justifiably lower eg. an F# in the following example to avoid the resulting beat from a closer (impure) third and adjust to produce an interval close to the just major third.



The decision to favour just intervals in harmonic contexts and Pythagorean intervals in melodic contexts seems well documented and practically accepted[11]. The syntonic comma is thus the important link in any distinction between harmonic and melodic tuning. In cases where we play the same interval (F# -A) in a predominantly melodic context, we will be inclined to treat the F# as a leading tone and accept the beat of the third as a result of the sharper F#.

The syntonic comma is responsible for a number of tuning impossibilities. This factual context has been well described by Heman (as well as Kimber) who remind us that the following can only be achieved with compromises to the B or the F# respectively:



[11] Greene, Nickerson, Kimber and others refer to this point.

Intonation as Interpretation

What are some of the implications of these differences and how important are they in practical terms to performers? Further, what relevance do these matters have for performance with piano which is tuned in equal temperament and supposedly uses fixed pitches and intervals different to just or Pythagorean conceptions?

The realities of the syntonic comma and the resulting ambiguities between melodic and harmonic tuning highlight the basic fact that intonation decisions are always context dependent. In this sense Galamian and Flesch make valid points. However, it also shows that the ambiguities we encounter are contingent. They are in fact dependent on assumed or pre-established interpretative contexts in our listening to music. While there are choices in terms of pitch depending on the harmonic, melodic or equally tempered context, such choices are limited.[12] It follows that effective communication about intonation requires a desire to refer back to the contexts in which decisions about pitch are made about harmonic or melodic interpretations. Naturally, this presupposes a readiness to clarify or question such interpretative listening. A discussion about intonation thus transforms into a discussion about interpretation. It recognises that the primary function of intonation is its contribution to the clarity of the musical conception and to the intention of the musician to expose music as meaningful. Intonation clarifies or confuses musical meaning.

Pedagogical implications

The interpretation of intonation as a characteristic of musical interpretation has implications for musical and pedagogical practice. In a brief paper on teaching the melodic and harmonic awareness of intonation, Michael Kimber observes that teachers need to clarify what they mean when they admonish students to listen:

"We continually urge our students to listen intently, but it is not usual to ask them to "listen melodically" or "listen harmonically."[13]

[12] We do not consider in this context the issue of additional or historically conditioned tuning systems (Vallotti, Kirnberger, etc). This would complicate matters, but it does not alter the basic conceptual circumstances in which intonation decisions must be seen as decisions of an interpretative nature.
[13] Kimber, 59

Empirical research confirms (Loosen, 1992; Nickerson, 1949) that we follow Pythagorean intonation patterns, preferring larger major – and smaller minor intervals (thirds, sixths), large whole-tone steps and close semi-tones. These intervals are established if we compare pitches internally using only fourths, fifths and octaves, as Fischer and others outline. When listening harmonically we are not satisfied with the essential 'out-of-tuneness' of the larger or smaller melodic thirds and sixths, and we seek to establish a correspondence between the relevant tones and their harmonic partials. Known as just intervals these intervals do not have the characteristic beat of the Pythagorean thirds and sixths and are in the case of major thirds considerably smaller and in the case of minor intervals considerably larger than the relevant Pythagorean thirds or sixths. Instructing the student thus to clearly identify a context of reference and to know that this context has a significant bearing on the pitch is a first step in treating intonation in terms of clarity. It relies on – and contributes to sharpening the structural understanding of the musical score. After all, at the point where discussions commence about melodic and harmonic contexts of intonation, the structure of the musical score and its conception comes into view and the musical structure is consciously perceived if not explicitly analysed.

In many cases, a decision whether harmonic or melodic intonation is appropriate is fairly straight forward. The violin frequently dominates as a melodic instrument and thus its repertoire lends itself at times to extreme melodic intonation decisions, which in some views add to the characterisation of the music. Scalar and fast, virtuosic playing tend to benefit from extreme melodic intervals (closer semitones and closer minor and larger major thirds). In addition, the tuning of the violin in fifths suggests a number of intonation considerations related to sound and tone colour. In cases where leading tones correspond to open strings – that is in keys such as F, Bflat, Eflat, Aflat major, etc sound and intonation seem to benefit from a lowering of the tonic and dominant towards the leading tone, rather than raising leading tones. This is an often neglected consideration particularly in string quartet playing and it may assist sound quality and interpretative clarity as it can highlight the expressive characteristics of these keys. It can also lead to flatness when playing with the piano and thus has to be employed with thoughtfulness.

A melodic playing which strikingly emphasises tonal and intervallic characteristics is sometimes referred to as *justesse expressive*. Rostal (quoting Casals) has the following to say on this:

"Every half tone attracts the following; the faster the sequence of notes, the closer a sensitive ear demands this characteristic interval to be, the higher or lower must the leading tones (*sensibles*) be played as they are attracted by their aims-whole tones are accordingly wider. This lends every melody its order and gives even the fastest and smallest run its physiognomy. This is a not to be underestimated but unfortunately often neglected major advantage for any interpretation. ...The

principle of *justesse expressive* which Casals formulated together with his friend Enescu is also followed by the excellent Hungarian gypsy musicians. Underpinned by the feeling which longs for expression and by musical taste it relies on conscious and attentive listening. It concerns the melodic relationship (successive relation) between the notes and is of a relative character. The slower the melody the less this is important, because the notes engage more significantly in the harmonic relationship (simultaneous relation) with other voices and this formation of chords is subject to the principle of partial harmonics."[14]

Limits of these melodic intonation decisions are established by possible conflicts with harmonic chord formations but also by any conflict when playing with instruments which are tuned according to equal temperament. Of particular importance for the violinist in particular are works with piano written in the keys mentioned above. As the equally-tempered semitones are considerably larger than the Pythagorean semitones, keys such as F major or Bflat major can no longer be intoned with significantly flattened tonic and dominant pitches when playing with piano. Decisions must stay flexible and pitches must obviously be matched to the piano context in the relevant and significant cases.

While this is true for many (but not all) contexts with piano accompaniment, it is important to remember that it does not imply adopting simply an "equal temperament" intonation - as Galamian seems to suggest. There are a number of reasons why Galamian's view cannot be supported: Firstly, even a performance with piano affirms melodic and harmonic contexts independently of the piano. Their clarification through the performers' intonation will contribute to the clarity, differentiation and beauty of the performance. Secondly, equal temperament is essentially sterile and artificial as a tuning system. It lacks definition of a sound spectrum for particular keys which we find very strongly in a string instrument. The tone colour of a violin is significantly different in C major then, for example, Dflat major. This difference of musical character would be reduced or erased if we were to commit entirely to equally tempered intonation even in circumstances where this is not demanded by the instruments. In any case the differences between Pythagorean and equally tempered intervals are most pronounced in the case of semitones and minor sixths. All other equally tempered intervals are closer to Pythagorean rather than just intervals. Thirdly, the reproduction of an equally tempered chromatic (or even diatonic) scale is not readily possible without the assistance of a tuning

[14] Rostal, 90

device.[15] This suggests the essentially artificial and somewhat unnatural character of this tuning.

These, then, are the major conclusions of my argument so far:

Intonation is context dependent. A main context is established by the melodic and harmonic interpretation of what we hear and imagine. A further context is set by the instruments of the ensemble in which the performance occurs. Certain woodwind instruments have limitations to their possibilities of intonation which are determined by the construction of the instruments. Other instruments (piano, organ) have determined and discrete pitches which are set by tuning systems which do not allow melodic and harmonic flexibilities of the same kind as string instruments who work with a continuum of pitches. In these cases, compromises are inevitable. However, in all cases we are looking at a fairly limited range of possible decisions. Knowledge of context will allow us to discuss the issue of intonation and experiment with alternative solutions to illustrate a shift in contexts and interpretative perspective. This facilitates more informed and harmonious communication within ensembles and among colleagues as the conditional nature of judgements is exposed. The melodic context in particular allows us to explore the rich resource of tone colours and expressive resources of the violin. The most striking example here is the intonation in "flat" keys, but also extreme melodic decisions articulating a "*justesse expressive*".

While general knowledge of acoustics can assist performance, the relevant, particular phenomenon for the string player is clearly the syntonic comma. Its importance needs to be understood. The syntonic comma represents the difference between a Pythagorean major third and a just major third (the latter being related to the overtones or partials). Being able to conceive this difference will assist in a clearer imagination of pitch and clarity of musical conception and listening.

Understanding the context which determines intonation implies a more courageous and confident approach to intonation. At the same time, it allows for a recognition of limits and imposes a responsibility for clarity. It encourages flexibility in practice and articulates foundations on which aesthetic discussion and decision become possible.

[15] Mantel, 34

Psychological issues: Mantel's concept of "mistake tolerance"

The latter point in particular seems worth expanding further as it leads to the performance-psychology of intonation. Identifying a context dependency of intonation signals that judgements of "right" or "wrong" intonation will need to be qualified. In fact, the usefulness of a paradigm of a "correctness" of intonation is in doubt. This has consequences on a number of levels and impacts on the psychology of performance. As Mantel points out expectations or perceptions of failure can lead to anxiety which starts to form and condition our practice. Where intonation is judged to be right or wrong, the student is more likely to practice and internalise intonation anxiety and to develop a defensive form of play with associated symptoms, including disruptions to natural movement and rhythm. This is likely to exacerbate any perceived intonation "problems". As an answer here, Mantel proposes a general concept of "mistake tolerance" which also should apply to intonation: In order to correct and improve intonation, unclear decisions in regard to intonation must firstly be registered and noted without anxiety and fear. The performer needs to develop the courage and resilience to commit mistakes and acknowledge these as the resource base for learning. Mantel states:

"As everyone makes mistakes, including the teacher, and since mistakes are important sources of information for progress, we advocate a kind of lutheran "joyous sinfulness" as a basic attitude towards intonation. The fear of faulty intonation should not inhibit the joy of "assertive" music making."[16]

Mantel argues that fear to make mistakes which is widespread in regard to intonation inhibits movement and clear thinking:

"If you are embarrassed to make mistakes, you cannot progress. We need to truly learn to make mistakes without conceiving them to be breakdowns. In the area of intonation, which allows for significant personal freedom, the fundamental fear to make mistakes is harmful in several respects. As anxiety it blocks free movement of the body, in addition, anxiety does not lead to a clear conception of the mistake and finally the many causes of the mistake are not clearly differentiated and thus not clearly recognised. Thus no methods towards a sensible correction of mistakes and towards the exploration of possibilities of correction are learnt."[17]

[16] Mantel, 119
[17] Mantel, 151

Mantel points to intentional "out of tune practice" which can be productive as in the case of practicing fast scalar passages with exaggeratedly Pythagorean intonation where the profile of the passage benefits from distinctly exaggerated placement of intervals. The student needs to be encouraged to explore intonation in regard to its musical function to explore the limits of clarity and confusion rather than conform to expectations of right or wrong. A punitive attitude towards intonation which is expressed often reflexively and at times with strong non-verbal signals by performers and teachers, does not encourage an affirmative attitude towards performance and contributes to undermine the aim of improving intonation.

Conceiving intonation within a paradigm of correctness favours defensive and reactive attitudes. Instead it seems more cogent to think of intonation as a relative challenge towards achieving musical and imaginative clarity. This creative clarity can be distributed across a number of different areas which all have an impact on intonation. Improving intonation then becomes part of the search for musical clarity and meaning in such areas as auralisation (pitch and interval), conception of interval and note-name, context of intonation (harmonic or melodic intonation), ensemble (equal temperament or other instrument specific tuning limitations), geographic orientation on the fingerboard, sound quality (contact point, bow pressure, speed), effective technical foundations and structures and mental and physical disposition.

Pedagogical implications

Mantel's psychological observations and the preceding foundational discussions suggest a number of pedagogical consequences:

Singling out intonation reactively and as an issue which needs to be conquered is pedagogically conflicted. Instead, intonation needs to be treated as a reflection of clear thinking and listening.

Mistakes, the autonomous exploration of intonation as a spectrum and clarification of distinct aspects of interpretation and understanding should be examined collaboratively with the student as creative possibilities and not rejected or censored.

Any judgement about intonation must explain itself with reference to contexts. Thus, reminding anyone to listen implies the responsibility to specify what is to be listened to and what musical aspect is the focus of attention. Equally, identifying out-of-tune playing requires the explication of this judgment according to a referential frame.

Pedagogy needs to build productive intonation habits from the early stages. This includes the coherent use of referencing contexts particularly in the methodical

instruction of students in the areas of melodic (but also harmonic) intonation. Using inappropriate referencing (in melodic contexts, thirds or sixths for example) will confuse the context of intonation that is to be established and may lead to the conditioning of inappropriate intonation decisions, such as closer whole tone steps or large semitones. The conditioning of melodic, scalar intonation can be achieved relatively easily with the use of sustained tonic or tonic-dominant drones during scale and arpeggio practice or – in the case of more advanced students- with the help of octaves, unisons, fourth and fifth comparisons.[18] The awareness of reference is easily internalised and attention in practice and performance can become clearly focussed in an affirmative stance and as a creative conception. A similar approach can be taken in regard to harmonic intonation: early ensemble work with students (violin duos, chorales, etc) can provide us with a vivid illustration of the principles of harmonic intonation. These can then be further delineated in practice against melodic conceptions. In the work on double stops, tempo decisions can play a role in confusing intonation contexts: in very slow tempi a scale in thirds seems primarily vertically defined leading to ambiguous and confusing conditioning in the early stages of learning. Thus, in these stages, the method of approach should emphasise the melodic connections of scales in double stops and only later draw attention to the necessary flexibility.

Clarity and comfort of conception shapes the student's relationship with intonation. Rather than enforcing intonation as a topic of fear and anxiety, we need to promote clarity of perception: clarity of aural imagination (inner ear); clarity of kinaesthetic and rhythmic perception of movement ("this is how the hand/finger feels on the string"); clarity of geographic understanding and mapping (finger-patterns, positions, fingerboard grids); clarity of perception of sound- and resonance spectrum.

Replacing the paradigm of correctness with that of clarity involves a shift in didactic approach towards authentic and autonomous decision making and student centric growth. In addition it connects the issue of intonation with that of musical interpretation. After all intonation is merely an aspect articulating meaning in music, a more or less systematic attempt to realise with the best clarity possible what the composer has conceived in the score and what performers imagine as a result of their reading of the music. Turning the attention from a fear of intonation to the meaning of the musical score translates into a greater focus on listening and creativity. Directing listening in itself will assist the clarity of intonation. It will also

[18] Ricci, 4

expand the freedom of conception and performance as the performer creates her performance through creative engagement and active imagination.

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