Heinrich Wilhelm Ernst and his Contributions to the Development of Left-hand pizzicato and Harmonics.

Tobias Wilczkowski

Magister's thesis, 15 ECTS points
The Department of Musicology and Performance studies
Stockholm University, 2011
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Abstract

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From the middle of the eighteenth century, the use of left-hand pizzicato and harmonics began to become more common in violin playing. Over time, these techniques underwent substantial developments thanks to several different violinists, among others Heinrich Wilhelm Ernst. These developments, however, have not been adequately investigated or documented, and in general, ignorance and misconceptions prevail regarding who contributed what, as well as to the significance of these individual contributions.

This thesis attempts to present Ernst's contributions in this area, and also advance that his lack of adequate recognition is unfair. In order to do this, a more complete and chronologically accurate review of the development of left-hand pizzicato and harmonics from the beginning of their development has been drawn up. This has been done through critical reviews and comparisons of different contemporary sources such as musical journals, violin methods and musical scores.

The conclusion has been drawn that Ernst contributed to the development of left-hand pizzicato and harmonics to a greater extent than has been adequately recognised. The importance of his role in this development is partially due to the number of his individual contributions, but primarily because he enabled the violin to play the role of several independent instruments played simultaneously in a more advanced fashion, which has arguably changed the outlook of the instrument.
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1. Introduction

1.1 Background

When the use and development of left-hand pizzicato and harmonics started to accelerate in the first half of the eighteenth century, the techniques soon became an accepted part of violin playing. During this century, they were promoted by several different violinists from different countries, and the techniques were often appreciated by audiences. In spite of this, they later fell to a great extent into oblivion. At the beginning of the nineteenth century, however, they would experience a veritable renaissance through the Italian violinist Nicolò Paganini (1782-1840), who with his playing style developed and used these techniques to a more extreme level. This strongly popularised their use, principally among the younger generation.

In the late 1820s, while still a student, Heinrich Wilhelm Ernst was deeply impressed by Paganini playing the violin. He quickly adapted an advanced playing style himself, and soon mastered, among other techniques, left-hand pizzicato and harmonics, which he began to incorporate in his compositions and performances from early on in his career. Throughout his career and until shortly before his death, he made several important contributions to the development of left-hand pizzicato and harmonics.

However, history has been unfair to Ernst, and today his contribution is virtually unknown or has simply been more or less disregarded.

1.2 Aim of thesis

The aim of this thesis is to present Ernst's contributions to the development of left-hand pizzicato and harmonics, as well as to elucidate the role his ambitions might have had concerning these techniques. To do this it was necessary to improve the documentation of the development, and also of the reception, of these techniques prior to Ernst. The development of these techniques after 1840 is described here for the first time, in a chronologically accurate fashion. This thesis also thoroughly describes Ernst's contributions to the development of these techniques for the first time, as well as relating them to the contributions of others, placing them in a larger context.
1.3 Previous research

The main works about the development of left-hand pizzicato and harmonics were written by David D. Boyden in articles and books, where *The History of Violin Playing from its Origins to 1761 and its Relationship to the Violin and Violin Music* from 1965 is the most central. This book contains solid material regarding the development of these techniques during the period covered.

Further research, largely based on Boyden, that contains some additional information about the development of these techniques has been done by Robin Stowell, where his unpublished 1979 doctoral dissertation *The Development of Violin Technique from L’Abbé le Fils (Joseph Barnabé Saint-Sevin) to Paganini* is the most significant.

Numerous articles have been written about individual composers' contributions to the development of these techniques. Here one article by Warren Kirkendale, *Segreto Comunicato da Paganini*, stands out since it concerns itself with the development of harmonics up to and including Paganini.

From the time of Ernst's career and the decades thereafter, one mainly finds information about Ernst in entries in encyclopedias. Dr Leone's *H. W. Ernst: Eine biographische Skizze [A Biographical Sketch]* of 1847 is worth mentioning here since it is one of the few sources that talks about Ernst's childhood.

In the beginning of the twentieth century, Amely Heller wrote *H. W. Ernst im Urteile seiner Zeitgenossen [H. W. Ernst in the Opinion of his Contemporaries]*, self-published in 1905. This work contains, among other things, reproductions of letters that Ernst wrote to his siblings while on tour.

The first more scientific work about Ernst is Jan Pěčka's unpublished thesis from 1958: *Heinrich Wilhelm Ernst*. It contains very valuable information about Ernst's family, gathered from legal documents found in archives in his birth town. In these documents Pěčka discovered, among other things, that what was formerly accepted as Ernst's birth date was incorrect.

Some decades later, in 1993, Fan Elun finished the unpublished doctoral dissertation *The Life and Works of Heinrich Wilhelm Ernst (1814-1865) with Emphasis on his Reception as Violinist and Composer*. This was by then without comparison the most significant contribution to the research about Ernst. It contains a detailed chronology of Ernst's life with reviews from
contemporary musical journals, and offers some insight into Ernst's composition style.

Further work in the area was done by Tobias Wileczkowski with his unpublished bachelor's thesis *Heinrich Wilhelm Ernst – En stor violinist i skuggan av Paganini [Heinrich Wilhelm Ernst – A Great Violinist in the Shadow of Paganini]*, 2006. Here, I discuss Ernst's position as a violinist and as an innovative composer during his lifetime.

The most significant and recent contribution to Ernst literature is M. W. Rowe's book *Heinrich Wilhelm Ernst: Virtuoso Violinist* from 2008. This book is the result of ten years of research on Ernst, and is a most reliable source. It provides a very detailed full-length biography of Ernst based on the work of Elun, covering many aspects of Ernst's life and music. It also contains the first complete list of all of Ernst's works. Rowe also discusses a new hypothesis as to Ernst's correct birthday, and provides a shorter analysis of his music and techniques, as well as of his influences from and on other people's music.

### 1.4 Material, methodology and delimitation

The central sources used for biographical information about Ernst is Elun and, even more so, Rowe. When dealing with the prior history of the development of techniques, various books, principally some of Boyden's, as well as articles about violinists and violin techniques in musical journals were used. For the musical examples and analysis, appropriate parts from a number of compositions by different composers were used, taken, apart from a few manuscripts, from printed sheet music or violin methods as well as facsimile reprints of these. Some of these musical examples were previously used in other scholarly works, and some were added for the first time. These examples were compared to each other in order to demonstrate the development of the techniques. Statements about different composers' usage of techniques, the execution of those and their reception, were taken from reviews and articles in periodicals along with a newspaper and from books on violinists. These types of sources were also used, along with musical lexica, for information about which years works were composed or published. In the conclusion a letter was used as the source for statements about a composition and the possible intent behind composing it. All of the used sources were reviewed critically.

Concerning musical journals, a numerous amount of issues of various German-language as well as English-language and French-language periodicals of their time from throughout the period which this thesis discusses, were originally reviewed.¹ In the case of sheet music, a

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comprehensive examination was originally done in reviewing a larger amount of published material as well as manuscripts by composers active during the same period.

In this thesis, only musical examples I consider relevant to the description of the development of the concerned techniques have been used. Regarding harmonics, if not otherwise mentioned, I am referring to those harmonics which produce a much higher pitch than would be produced were the fingers stopped firmly as usual. I have also not mentioned other pseudo-harmonic effects than the trills.

1.5 Disposition

This thesis begins in chapter two with a review of relevant information concerning Ernst's musical background and influences, and with a hypothesis regarding his ambition of mastering and using left-hand pizzicato and harmonics in his performances and compositions. In chapter
three an account of the development of left-hand pizzicato prior to Ernst is given. This chapter is principally based on existing literature, with some additional information making it chronologically more accurate. A correct chronology of the development of this technique is important in order to better understand Ernst's contribution to it, and to put it in context. In this chapter a discussion is introduced, about the illusion of two instruments simultaneously playing together on the violin. Apart from this being mentioned in reviews of performances, this does not seem to have been previously discussed in any scientific work. Neither does it seem that the concept of intimacy between different parts played simultaneously on the violin has been discussed before. In chapter four Ernst's contributions to the development of left-hand pizzicato, as suggested by the chapter's subheadings, are presented. The material is based on earlier research but with new information added. In chapter five an account of the development of harmonics prior to Ernst is given. This chapter is also principally based on existing literature with new information added, making it chronologically more accurate. In the following chapter Ernst's contributions to harmonics are presented, also here with new information added. The next chapter presents a hypothesis of what is believed to be Ernst's musical testament, along with possible reasons as to why his discoveries are not more noted and why he is forgotten today. In the last chapter of the thesis, chapter eight, the findings from earlier chapters are summarised, followed by a discussion of what has happened after Ernst and the impact of his contributions.
2. Ernst's musical background, influences and ambitions

This section deals with Ernst's musical background. First the matter of his date of birth, where there is some confusion, is clarified. An account of his education is then given, followed by a discussion about how Ernst was influenced by Paganini in his interest in learning, using and developing the techniques of left-hand pizzicato and harmonics in performances and compositions. A hypothesis about Ernst's intentions in using some aspects of these techniques is also presented.

Heinrich Wilhelm Ernst was born in Brünn in the Austrian Empire to Jewish parents without any recorded musical background. Most sources from the nineteenth century say that Ernst was born in 1814, and all modern reference books add that he was born on 6 May. However, this date seems to be incorrect. On a bronze relief on Ernst's tomb in Nice, sculpted by his wife, it says "LE 8 JUIN 1814", and one can only assume that she would have known the proper day and month of his birthday. The stated year, however, cannot be correct as can be deduced from the information on the surviving birth certificate of his younger brother, giving the birth of his brother as no later than 28 November 1814. If we were to assume then that Ernst had been born the year before, on the 8 June 1813, his birth would possibly have been found among the Jewish birth certificates which had started being issued from February that same year in Brünn, yet no certificate for Ernst survives. Since Ernst was a prodigy, and it was then common to reduce the stated age of prodigies by two years rather than just one year, Rowe suggests that Ernst was actually born on 8 June 1812.

According to Rowe no information about Ernst's early childhood has survived. Hector Berlioz, who later became one of Ernst's best musical friends, says that Ernst acquired his taste for the violin at the age of nine through attending lessons given to his elder brothers. His first teacher was a baker called Johann Sommer and Ernst quickly showed a prodigious talent for the instrument. During his first year of study, Leopold Mozart's Versuch einer gründlichen Violinschule... fell into Ernst's hands and remarkably hastened his progress. This was one of the most solid violin methods available at the time. Then, Ernst was accepted as a pupil with

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3 Ibid., p. 19f.
4 Ibid., p. 21.
5 Hector Berlioz, 'Ernst. Son premier concert', Journal des débats, 27 January 1852, Revue Musicale, p 1f.: "Il prit goût au violon en assistant aux leçons que prenaient ses frères ainés sur cet instrument".
7 Berlioz, op. cit., p. 2: "Il n’avait encore que neuf ans quand la méthode de violon de Léopold Mozart (le père de l’auteur de Don Juan) tomba par hasard entre ses mains et vint hâter prodigieusement ses progrès".
Leonhard, Brünn's leading violin teacher. His progress must have been impressive indeed, since his first recorded public concert was on 24 March 1824 when he played two works by Joseph Mayseder at the National Theatre in Brünn.

In October 1825, Ernst began his studies at the Conservatoire in Vienna. His violin teacher was Joseph Böhm, a pupil of Pierre Rode, and Ignaz Seyfried, who himself had been a pupil of both Peter Winter and Johann Georg Albrechtberger, taught him composition. He also studied violin privately under a violinist outside the Conservatoire: the same Mayseder whose works Ernst had played at his first concert. According to Elun, during his time at the Conservatoire Ernst mainly played compositions of the French and Vienna schools, for example concertos by Rode and Böhm.

A turning point in Ernst's life came with Paganini's Viennese concerts in 1828. Paganini was not totally unknown to the Viennese. For at least a decade, there had been reports of this extraordinary violinist performing inconceivable feats on his instrument. Not only lay audiences but also violinists were stunned by Paganini's high technical standard, demonstrating to many the unsuspected potential of the instrument. Even though more or less every advanced technique he used had already been discovered, he used them in such an extensive and developed way as had never been seen before. Two of the techniques that Paganini reintroduced were left-hand pizzicato and harmonics. These would generally give the impression of virtuosity, and they mesmerised and caused the most astonishment among the audiences perhaps thanks to their extra-violinistic characteristics, that is, the ability to sound like other instruments rather than just the violin. Although these two devices had already been discovered, and had gone through quite some development well before Paganini, they had more or less fallen into oblivion and were now generally perceived as novelties.

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8 Rowe, op. cit., p. 22.
11 Rowe, op. cit., p. 32.
12 Ibid., p. 30.
13 Elun, op. cit., p. 15.
14 Ibid., p. 16.
15 According to Rowe, op. cit., p. 34.
16 Elun, loc. cit.
17 'Nachrichten', Allgemeine musikalische Zeitung, vol. 30, no. 19, May 1828, col. 309f: "Was wir nun zu hören bekamen, übersteigt allen Glauben und lässt sich nicht mit Worten beschreiben; genug, dass selbst die achtbarsten seiner Kunstverwandten über die Möglichkeit sich vergebens die Köpfe zerbrechen. Die höchste Grossartigkeit gepaart mit der makellosesten Reinheit; [...] Läufer in sechszehntheiligen Noten, wovon die eine immer Pizzicato, die nächste coll'arco vorgetragen wird [...]. Des Rondeau's allerliebstes Thema stimmte wieder zur Munterkeit; ein helles Silberglockchen accompagnirte zuweilen, und mit diesem wetteiferte der Concertist in seiner wunderslässigen Flageolettönern; für welche er, vermöge derselben älteren Anwendung, eine fast allzugrosse Vorliebe zu hegen scheint, und beyde verschmolzen so innig ineinander, dass das schärfste Gehör vergebens sie zu
used these devices extensively and they were quite characteristic of his music.

Paganini specifically insisted that violin students at the Conservatoire should be admitted for free to all his public performances, and therefore one can assume that Ernst did attend the opening concert at the Redoutensaal on 29 March. As well as other compositions, Paganini played his Second Concerto in B minor and variations on Non più mesta from Rossini's La Cenerentola. These compositions both contain, among other techniques, harmonics and left-hand pizzicato. Paganini's performance dazzled the 15-years-old Ernst, who had now been introduced to an element of world-conquering ambition that previously had been lacking in Ernst's education. He attended many of Paganini's concerts and studied the violinist diligently. According to Berlioz, at some point during his Viennese stay Paganini also heard Ernst play. The young man performed Paganini's Caprice in E, La Chasse which he had studied note for note. Deceived by the text imitando il flauto, written at the head of the sheet music, Ernst thought that the double-stoppings should be played in harmonics, and studied them accordingly. He played the piece well in front of Paganini, who could not believe his ears, and cried "E un diavoletto!" ["He is a little devil!"]. As double harmonics was widely seen as a novelty introduced by Paganini, it should be pretty safe to assume that Ernst had not been introduced to this technique prior to Paganini's concert. This assumption and the fact that Paganini did not stay in Vienna for longer than the month of May, would mean that Ernst had quite quickly worked out and mastered the technique of double harmonics on his own.

In the summer of 1828, Ernst left Vienna for Brünn to visit his father, who had become ill. Back in Brünn, he must have also practised harmonics and left-hand pizzicato systematically and furiously. Ernst only had a printed text of Paganini's Caprices, merely containing less advanced left-hand pizzicato, which means he probably again had to work out for himself how to achieve these effects.

In April 1829, Ernst toured several German cities following Paganini from town to town, untercheiden sich abmühte".

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18 Rowe, op. cit., p. 35.
19 'Nachrichten', Allgemeine musikalische Zeitung, loc. cit.
20 Rowe, op. cit., p. 36.
21 Elun, loc. cit.
22 Berlioz, loc. cit.: "Jalous de paraître honorablement devant le maître des maîtres, l'infatigable enfant eut la persévérance d'étudier note par note les fameuses études de Paganini, compositions qui à cette époque devaient paraître aux plus habiles d'indéchiffrables logogriphes. Trompé par le mot flautato écrit en tête de l'étude en mi majeur, Ernst crut qu'elle devait être jouée entièrement en doublLes sons harmoniques, et l'étudia en conséquence. Il la joua ainsi devant Paganini, qui, n'en pouvant croire ses oreilles, s'écria «E un diavoletto!»".
24 Rowe, op. cit., p. 37.
25 Ibid., p. 39.
26 Christian D'Elvert, 'Ernst', Geschichte der Musik in Mähren und Österreich-Schlesien : mit Rücksicht auf die
playing concerts promptly after Paganini in order to compete with him. To learn as much as he could from Paganini, he attended every possible concert; Ernst heard Paganini play at least twenty times in public. Ernst gave the first performance of his Variations brillantes sur un Thème de Rossini, opus 4, in Stuttgart late in 1829 or early in 1830. This is one of Ernst's earliest compositions, and in it double harmonics occur in the second variation.

In the spring of 1830, Ernst went to Frankfurt where Paganini was playing concerts, and gave a concert himself shortly after. According to Dr Leone, after listening to Paganini playing, Ernst had been able to master Paganini's unpublished solo variations on Nel cor più non mi sento, which he then performed at this concert, dazzling and amazing the audience, including Paganini himself. These bravura variations consisted of many of the tricks and innovations reintroduced by Paganini, including double harmonics and left-hand pizzicato with and without the simultaneous accompaniment of a bowed melody. However, the review in Allgemeine musikalische Zeitung did not mention this achievement of Ernst's, but regretted instead that he played in Paganini's manner, "whose presence probably made it awkward for him". I doubt though, that this was at all awkward for Ernst. On the contrary, I believe that it was quite a calculated and demonstrative act on Ernst's part. Since he followed Paganini from town to town, Ernst probably expected Paganini to keep an eye on him, rival as they were, and therefore to attend his concert. The performance could very well have been directed as much to Paganini as to the rest of the audience, as if to say: "So what? I can play this too. He is not the only one that has comprehended and mastered these techniques". Playing concerts close to Paganini's as well as playing his compositions, ensured that Ernst's concerts would attract attention. A few years later in 1834, together with Charles Schunke who wrote the piano part,
Ernst composed and performed *Souvenir du Pré aux Clercs*. In this piece, composed with variations, left-hand pizzicato in short descending scales occur in the finale.

Some years later in 1837, Ernst set up concerts in the same manner in France. He had gone so far as to rent rooms next to Paganini, eavesdropping on him practising. Thanks to this, Ernst had learnt Paganini's *Dal tuo stellato soglio*, variations on the G-string containing harmonics in high positions, which he performed and got much better reviews that time. For Ernst, this was a tremendous breakthrough. Once again, he had succeeded in his goal of seriously challenging Paganini, who was seen as the superior violinist, by executing the latter's own music with its "novel" techniques "as well as, if not better than, himself". Once again Ernst had learned and mastered one of Paganini's unpublished compositions, containing modern techniques including harmonics or left-hand pizzicato, widely associated exclusively with Paganini. Not surprisingly, Ernst wanted as much recognition as possible for his accomplishment, and asked a friend to use his connections in a few newspapers to spread the word. This might illustrate Ernst's *world-conquering ambition* as suggested by Rowe, which is closely linked to his usage of the techniques of harmonics and left-hand pizzicato, since they were, however erroneously, widely seen as discovered by Paganini, who was also believed to be the only one that could and had the exclusive right to master them.

Ernst was not the only violinist of the time to challenge Paganini. However, what perhaps distinguished him from the rest was that he did it in such a direct, determined and aggressive way; that he was so young; and that he so quickly mastered the playing style of Paganini. Furthermore, it seems that Ernst's ambition was not only to surpass the master in execution of the violin's technical development, where left-hand pizzicato and harmonics were central, but also as a composer employing these devices. This can be seen in two of Ernst's compositions from the same year. The first piece is *Trio pour un violon*. It is a short unpublished

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32 'Soiree musicale de M. H. Ernst' (23 decembre, dans les salons de M. F. Stœpel), *Gazette de Musicale de Paris*, no. 52, December 1834, p. 427.

33 According to a Letter of Ernst to his siblings, 15 April, 1837, cited in Heller, op. cit., p. 14: "Sonntag darauf gab Paganini Concert. [...] Er hatte nicht so viel Beyfall als ich, und es heiß allgemein, daß er nicht so zum Herzen spricht als ich. Er zeigt ein zweites Concert an, die Journale sagen alle, sich zum Publikum wendend: „Vous qui trouvez qu'il n'a pas menté et préférez Ernst, allez l'endendre Dimanche il jouera la prière de Moïse sur la 4me Corde et vous pleurez“. Man kam noch einmal in der höchsten Erwartung, die wieder unbefriedigt blieb. Hierauf waren die Meinungen getheilt, aber allgemein hieß es, daß ich gefühlvoller singe und er mehr Schwierigkeiten mache (bewältige).

34 Moser, loc. cit. This is taken from a conversation between Ernst and Joachim told by Joachim to the author: "Als ich mehrere Jahre später im französischen Süden wieder mit ihm zusammentraf, war allerdings seine frühere Sicherheit auf dem Griffbrett so erheblich zurückgegangen, daß ich, ohne ruhmredig zu sein, manche seiner Paradestücke ebenso gut, wo nicht besser herausbrachte als er selber".

35 Letter of Ernst to Dantan, 23 March 1837, cited in Edward Sainati, 'Idol Correspondence', *The Strad*, August 1985, p. 266: "My last concert was a complete success. [...] If you could find, amongst your connections, a way to spread the news around in a few newspapers, I will be eternally grateful to you".

36 Rowe, op. cit., p. 36.
composition, consisting of just 12 bars. The composition is quite unique and does indeed give the impression of a veritable trio; it is written in three different staves, where a melody in the first part is accompanied by bowed notes in the second, and notes executed in left-hand pizzicato in the third. The piece is based on the Italian composer Vincenzo Bellini's tune *Tu-vedrai*, with a dedication to a Monsieur Laurent. The manuscript is dated 30 April 1837, just two weeks after he explained his triumph over Paganini in a letter to his siblings; a letter in which Ernst seems quite at ease and full of confidence. I suspect that the *Trio pour un violon* could very well be Ernst's answer to Paganini's *Due merveille*, Duet for one violin. Although, if that was the case, it was a rather silent one. The piece seems in any case too short to have been published without being part of a set.\(^{37}\) However, since it has a dedication, it is highly plausible that Ernst at least gave one or several private performances of it.

The second composition is his variations on *Carnaval de Venise*. Paganini had made the theme famous on the violin with these variations, composed eighteen years earlier.\(^{38}\) This piece could be seen more as a tribute to Paganini, since Ernst used the same theme to do variations on, wrote it in the same key, and also used *scordatura* in the same way as Paganini. However, it is possible that Ernst also attempted to surpass Paganini's variations, at least regarding the use of left-hand pizzicato and harmonics. Indeed, he uses left-hand pizzicato in a more advanced fashion, and harmonics more extensively and in a greater variety. Ernst made this composition his hallmark, and he played it quite often as the last piece of his concerts. Even when it was not programmed, audiences sometimes refused to leave, stamping their feet and shouting until it was played.\(^{39}\)

Ernst was successful not only in the way he included harmonics and left-hand pizzicato in his compositions, additionally, the critics often particularly enjoyed Ernst's execution of these techniques.\(^{40}\) There were several other nineteenth century violinists apart from Paganini that had incorporated and further developed these rediscovered techniques in their compositions, some of who would have an impact on Ernst. During his career, Ernst met or became otherwise influenced by, among others, Karol Lipiński (1790-1861), Hubert Léonard (1819-1890), and Henryk Wieniawski (1835-1880).

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\(^{37}\) On p. 74, Rowe, op. cit., suspects that *Trio pour un violon* originally was planned to be part of a set of etudes.


\(^{39}\) Elun, op. cit., p. 135.

\(^{40}\) These are two examples of such reviews: 'Nachrichten', *Allgemeine musikalische Zeitung*, vol. 42, no. 6, February 1840, col. 111: "[... ] das Flageolet erscheint so klar und glockenrein, wie man es selten zu hören pflegt". 'Nachrichten', *Allgemeine musikalische Zeitung*, vol. 44, no. 8, February 1842, col. 162: "Herr Ernst erregte besonders durch seine eminente Fertigkeit im mehrstimmigen Spiel, Staccato, wie durch seine [...] schönes Flageolet und Pizzicato Aufsehen".
3. The development of left-hand pizzicato prior to Ernst

In this section the history of the development of left-hand pizzicato prior to Ernst is presented. Please note that the development of techniques mentioned here could very well have occurred earlier than stated through improvisation, and therefore never having been written down or otherwise recorded. For this reason, it is possible that certain known techniques could in fact have been discovered earlier than we think, and other techniques no longer known today could have been lost altogether. This presentation relies on both prior sources as well as musical examples which are provided here in order to add new and adequate information, which is lacking in previous works dealing with the development of this technique. All musical examples are provided and discussed here for the first time if not otherwise mentioned. In this chapter the discussion of left-hand pizzicato in three-part harmony is presented for the first time. Where found, statements regarding the reception of these techniques and effects are included. Due to the limitations of the violin, in this case primarily that different parts playing at the same time depend on the same four fingers and bow, there is not much freedom to create neither intimaecy nor balance between different parts. These two aspects are important however, when it comes to the reception of the violin being played as several different instruments simultaneously.

3.1 Left-hand pizzicato before the nineteenth century

In the sixteenth century plucking of the string by the viola da gamba player is mentioned by Ganassi.41 Violinists probably used pizzicato, although not under this term, almost from the origin of the instrument. It was merely natural for players of bowed stringed instruments, who heard lutes and guitars everywhere, to imitate them by plucking the strings as a special device.42 In the seventeenth century right-hand pizzicato, in imitation of the plucked instruments, became a standard device on the violin.43 In the same century a little-used term for a primitive left-hand pizzicato limited to open strings is mentioned in Thomas Ford's *Musicke of Sundrie Kindes* from 1607.44

41 Silvestro Ganassi, *Lettione seconda pur della practica di sonare: il violone d'arco da tasti*, facsimile reprint, Forni, Bologna, 1970, chap. 8: "Prima ogni volta che tu vederai disotto al numero uno pòto a questo modo el se sa incendere essere praticado nel perciotere la corda in suso con el dedo indice [...]".


43 Ibid., p. 172.

The use of more developed left-hand pizzicato was not widespread but for that matter not unknown in the eighteenth century. The possibly French violinist de Tremais (circa 1728–1751) used a slightly more advanced left-hand pizzicato technique in his second sonata opus 4 from circa 1740. The pizzicato is to be executed only on open strings, but he uses all four of them, and the individual pizzicato notes are alternated with single bowed notes as well as with bowed slurs (Exx. 1 and 2). The left-hand pizzicato from this period is notated simply with a "p.".

Example 1. de Tremais, Sonata 2, bar 16

Example 2. de Tremais, Sonata 2, bar 13. See also Boyden, The History of Violin Playing..., op. cit., p. 445

At the end of the eighteenth century, several violinists such as Nicolò Mestrino, Václav Pichl and Anton Stamitz (1750-after 1795) began to popularise the use of left-hand pizzicato. The technique was frequently used by the violinist Stamitz in his Sonatas, composed between 1776 and 1782. In the Rondo from the third Sonata, variations on Twinkle, Twinkle little Star, one can see a development from de Tremais. The individual pizzicato notes are alternated with bowed slurs, which give an effect of the violin acting as two different instruments; a plucked instrument plays the first note in the bar and is then replaced by a violin. The pizzicato here is them with the first and second finger of the left hand according to the direction of the pricks".

also no longer limited to open strings. In addition, the notation has evolved and the pizzicato is now being indicated with an "o" (Ex. 3).

![Example 3. A. Stamitz, Sonata 3, Rondo con variationis, Variation 1, bars 1-5](image)

Another more developed type of pizzicato frequently used by Stamitz is employed in combination with bowed notes. Here the notes are alternated with bowing and plucked with the finger that has just played the preceding note. In some cases two pizzicato notes are to be plucked in a row (Ex. 4).

![Example 4. A. Stamitz, Sonata 1, Menuet, Variation 2, bars 1-2](image)

The German composer Friedrich Wilhelm Rust (1739-1796) was also an ardent user of left-hand pizzicato, which he employed in different ways in his Solo Sonatas composed in 1795. In his second Sonata one encounters the above mentioned technique of left-hand pizzicato alternated with bowed notes, but in a slightly more advanced fashion. Here, the bowed notes preceding the pizzicato instead consists of double stops as intervals of a third, fourth, fifth, and sixth respectively. The left-hand pizzicato is notated here as a "+" which would become the modern and current notation (Ex. 5).

![Example 5. Rust, Solo Sonate 2, Double 4, bar 3](image)

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48 According to Moser op. cit., p. 332f.
In his first Sonata, one encounters left-hand pizzicato played simultaneously with bowed notes, and thus the violin here acts as two different instruments at the same time. There are however practical problems when composing with this technique due to limitations of the instrument. For example, only four fingers can be used to produce different tones and the mutual intervals between the parts, with the exception of the aid of open strings. This makes it hard to create mobility and life in both parts at the same time. This limitation also comes back in the fact that both parts must share the space of only four strings and obviously cannot use the same string at the same time.

Despite these limitations, Rust was successful in composing with this technique. The pizzicato part here is first played on strings adjacent to the bowed part's in single as well as double and triple stops (Ex. 6).

![Example 6. Rust, Solo Sonate 1, Gigue, bars 5-8](image)

Later in the composition, the pizzicato part is also played on strings non-adjacent to the ones used by the bowed part, and in bar 20, the parts are more intimate because they play different rhythms (Ex. 7). This gives an illusion of a solo violin playing, simultaneously accompanied by a plucked instrument of some kind.

![Example 7. Rust, Solo Sonate 1, Gigue, bars 18-20](image)

Thanks to the use of left-hand pizzicato playing simultaneously with bowed notes, two parts could play at the same time without having to be limited to adjacent strings, creating a sensation of the parts being independent. Pizzicato is normally executed by the right hand.
instead of conducting the bow, but since, when these techniques are used at the same time, the execution of the pizzicato will often seem both unexpected and concealed, this creates the illusion of a violin playing simultaneously with a plucked instrument. With the development of the usage of left-hand pizzicato, the violin had become an instrument capable of playing the roles of two different instruments at the same time, and was thus on its way towards becoming a truly transcendental instrument.

Although there are plenty of examples of left-hand pizzicato in the music from the first half of the eighteenth century, there are none in the methods.\textsuperscript{49} Documentation of left-hand pizzicato in violin studies from this century exists but is very sparse. Only Bartolomeo Campagnoli and Michel Woldemar mention this technique in their methods from 1797\textsuperscript{50} and 1798\textsuperscript{51} respectively.\textsuperscript{52} Campagnoli uses the left-hand pizzicato in his study in the same way as Stamitz in example 4,\textsuperscript{53} while in Woldemar's Study, one encounters left-hand pizzicato combined with bowed notes in a more simple manner.\textsuperscript{54}

Another technically gifted violinist who used a multitude of technical tricks in his playing style was the Pole August Duranowski (circa 1770-1834).\textsuperscript{55} He too used the technique of accompanying a melody bowed on the top violin strings by a simultaneously left-handed pizzicato rhythm plucked on the lower-pitched strings,\textsuperscript{56} although there does not seem to be any traces of such a technique in his printed music.

\textbf{3.2 Left-hand pizzicato from the nineteenth century}

In the latter part of 1794 or in 1795, the young Paganini heard Duranowski, who "revealed to him the secret of everything one could do on the violin".\textsuperscript{57} It is also said that Paganini later

\begin{footnotes}
\item[50] According to Boyden, \textit{The History of Violin Playing...}, op. cit., p. 509.
\item[53] Bartolomeo Campagnoli, \textit{Metodo della meccanica progressiva per suonare il violino}, op. 21, Newer italian edition, Ricordi, Milano, ex. no. 195b, p. 124.
\item[57] According to François-Joseph Fétis, 'Durand ou Duranowsky', \textit{Biographie universelle des musiciens et bibliographie générale de la musique}, vol. 3, Firmin Didot, Paris, 1866, p. 87: "Paganini qui avait entendu Durand dans sa jennesse, m’a dit que ce virtuose lui avait révélé le secret de tout ce qu’on pouvait faire sur le violon, et que c’est aux lumières qui lui ont été fournies par cet artiste qu’il dut son talent".
\end{footnotes}
confessed that "many of his most brilliant and popular effects were derived to a considerable extent" from Duranowski. In any case, Paganini used left-hand pizzicato in an extensive and developed manner, and it was an obvious device in among other those compositions with variations, as in *Nel cor più non mi sento*, composed probably around 1820 (Ex. 8). A reviewer in *Caecilia, eine Zeitschrift für die musikalische Welt* described the trill: "He overcomes [...] the difficulties of the harp and at the same time plays a reverberating pizzicato trill with the fingers of his left hand", and another reviewer in *Allgemeine musikalische Zeitung* described his rapid downward scale: "He creates his surprising pizzicato runs by striking the string with the hardened tips of his fingers".

Example 8. Paganini, *Nel cor più non mi sento*, Tema, bars 7-8, see also Stowell, 'Nicolo Paganini (1782-1840), The Violin Virtuoso in excelsis?', *Basler Jahrbuch für historische Musikpraxis*, 1996, p. 80

### 3.2.1 Left-hand pizzicato as accompaniment to bowed notes

It seems unclear exactly which of the effects later used and popularised by Paganini, that had actually been used by Duranowski originally. However, as earlier mentioned, the technique of accompanying a bowed melody with left-hand pizzicato was one of them, and Paganini began to explore it further.

Circa 1808, Paganini composed *Due merveille*, Duet for solo violin, in this manner. In the

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58 According to de Courcy, op. cit., p. 34.
59 According to Neill, op. cit., p. 894.
60 Guhr, Carl & Gottfried Weber, 'Paganinis Kunst die Violine zu spielen', *Caecilia, eine Zeitschrift für die musikalische Welt*, vol. 11, no. 41, 1829, p. 79: "Er überwindet [...] die Schwierigkeiten der Harfe und schlägt zu gleicher Zeit mit den Fingern der linken Hand einen prallenden pizzicato-Triller".
61 'Nachrichten' *Allgemeine musikalische Zeitung*, vol. 30, no. 29, July 1828, col. 477: "Seine überraschenden Pizzicato-Läufe bringt er mit dem Anschlagen seiner verhärteten Fingerspitzen auf der Saite hervor".

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first part of the composition, the Adagio, the two different parts are quite independent from one another in several aspects. Since the pizzicato is executed here with even less need to follow the rhythm and note length of the bowed part, the pizzicato part is quite unlimited by the former, as seen especially in bars 5 and 9. This is further enhanced by the higher degree of activity in both parts, and by the bowed part not having to play the same note when they play simultaneously (Ex. 9). This gives an even more realistic illusion of a violin playing at the same time as with a plucked instrument, as described by the German composer Jakob Rosenhain after hearing Paganini in Frankfurt 1830: "Then he played some variations without accompaniment, in which as a matter of fact he accompanied himself, so that we were persuaded that a violin and a guitar were playing together".\(^{63}\) This composition got a fair amount of attention; in a short advertisement for the piece in Allgemeine musikalische Zeitung from the same year, it says that "all violin player will want to try it, and rightly so".\(^{64}\)

Example 9. Paganini, Due merveille, bars 5-9, see also Penesco, 'Paganini et la technique du violon', Revue musicale de Suisse romande, no. 9, November 1982, p. 144

Several violin methods by prominent nineteenth century composers, such as Baillot et al., and Louis Spohr, omit the device of left-hand pizzicato. Spohr openly rejected this "kind of pizzicato with the left hand" often used by Paganini.\(^{65}\) The German violinist Carl Guhr on the other hand, incorporated both Nel cor più non mi sento and Due merveille by Paganini, apart

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\(^{63}\) Gamba, 'Recollections of Paganini' The Strad, Special Supplement, December 1893, p. 190.


from some more basic examples, in his method *Ueber Paganini's Kunst die Violine zu spielen.* The method, which is chiefly built on observations of Paganini, thus provides good exercises for left-hand pizzicato, both with the aid of the bow, and simultaneously with bowed notes. In the beginning of the section that discusses the mixture of bowing and left-hand pizzicato, Guhr states that only Paganini used the technique at the time of the writing of the method, which in the preface is dated November 1829. However, in a review of a Berlin concert by Paganini in the British musical journal *The Harmonicon* from June 1829, there is word of "a young violinist of Vienna" that plays in the style of Paganini and that has reproduced several of the latter's unpublished compositions. It seems to be more than possible that this young violinist was Ernst, especially taking into account where he played concerts that year, and it is safe to assume that given that he played the variations on *Nel cor più non mi sento*, he would also have used this technique.

Left-hand pizzicato was soon to spread further and become popular among more violinists of the younger generation. They, however, generally used it to more taste and when it was needed, rather than as in Paganini's case, as an obvious returning device for the sheer sake of it. The French violinist Eugène Sauzay, who was in his twenties at the time, is reported to have said after Paganini's debut in Paris 1831: "[...] all of us practised for months, nothing else but pizzicati with the left hand [...]".

Later in the nineteenth century, this device was used in a new way by playing fast moving bowed springing arpeggio with simultaneous accompaniment of left-hand pizzicato. It was at least employed in the second edition of *Souvenir de Haydn*, variations on the national anthem of the Austrian Empire, composed by the Belgian violinist Hubert Léonard at the latest in 1845. The bowed arpeggio notes in *Allegro moderato* move rapidly over the strings without interruption. After the execution of the pizzicato, the bowed notes immediately play on the

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67 Ibid., p. 2.

68 ‘Foreign Musical Report - Berlin’ *The Harmonicon*, vol. 7, pt. 7, June 1829, p. 148: "And yet, if we are to believe the accounts that have reached us from the south of Germany, a young violinist of Vienna has found the solution of this problem. It is said, that he has not only imitated Paganini's manner with such exactitude as to deceive the finest ear, but that he has reproduced six favourite pieces, never yet published by the latter. This youth, after exhibiting his talents at Vienna, has proceeded on his travels and has already given concerts at Munich and Nuremberg, which have been successful”.

69 Rowe, op. cit., p. 40.


71 Cited in Carl Flesch, 'Apropos of Paganini's Secret', *The Strad*, September 1939, p. 205. This is told by Sauzay to Flesch.

72 According to 'Nachrichten', *Allgemeine musikalische Zeitung*, vol. 47, no. 15, April 1845, col. 263.
same strings. This combined with the fact that the execution of the pizzicato is visually quite concealed, creates a state of intimacy between the two devices (Ex. 10).


A reviewer in *Allgemeine musikalische Zeitung* from May 1846 writes that *Souvenir de Haydn* is well thought out and interesting, but regrets what he considers being Léonard's overuse of already exhausted effects such as the arpeggio. The reviewer ends with the wish that violinists would think of something new. However, this particular use of arpeggio was inventive and certainly not much used at the time, and the reviewer had nothing to be worried about anyway: the development of new techniques creating new effects was by no means about to stagnate.

3.2.2. Left-hand pizzicato in three-part harmony

The possibility of playing in three-part harmony is rather limited on the violin. It is possible, however, with the aid of left-hand pizzicato. When playing in three-part harmony, it is quite hard to make the parts feel independent and free from each other, because of the limitations of the instrument. In this case, these lie primarily in the fact that there are only four strings on the instrument and that the bow is only able to play on adjacent strings and cannot play bowed notes simultaneously with non-bowed notes. This also diminishes the possibility of using other than open strings when executing the left-hand pizzicato.

Paganini was perhaps the first to use left-hand pizzicato as the lower of the accompanying parts in a three-part harmony. One finds this technique in the third variation of *God Save the

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King, composed in 1829. With the second part being of a more mobile character than the first part, two quite independent bowed parts are played in this piece, simultaneously accompanied by pizzicato. The pizzicato part is only executed on open strings, but as a double stop in bar 12, and thus all four strings are utilised at the same time. All the parts together create an illusion of two violins playing one part each, at the same time as they are being accompanied by a plucked instrument playing the lowest part (Ex. 11).

Example 11. Paganini, God Save the King, variation 3, bars 7-12

This technique did indeed delight some reviewers:

He has lately arranged [...] God save the King, which is written in two real parts throughout, and one variation is in three - that is to say you hear at one time the melody, a tremolo producing the effect of the harp, and a pizzicato base, which he produces with the thumb. This incredible combination is perfectly fascinating.

3.2.3 Left-hand pizzicato as melody accompanied by bowed notes

Another variation of God Save the King uses the technique of producing a melody in pizzicato accompanied by bowed notes played throughout, and Paganini was perhaps the first to introduce this technique too. The melody, which also contains some double stops in the first two bars, is played continuously throughout the variation. First it is played with relatively great activity but with fairly sporadic accompaniment, which is executed at its most one time for

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every crotchet. In the second half of bar 5, the accompaniment is executed on an open string, played continuously as a minim, but despite of this the first part is now being even more active (Ex. 12).

Example 12. Paganini, *God Save the King*, variation 4, bars 1-6, see also e. g. Stowell, *Violin Technique and Performance Practice...* op. cit., p. 224, and Penesco, op. cit., p. 50

Playing tremolo with just the bowed notes on the violin was a special device widely used by violinist-composers from the eighteenth century onwards. From bar 7 in this variation, the pizzicato is executed in tremolo, making it very active, and this way of playing could very well be a novelty introduced by Paganini. Here, the accompaniment is instead continuous and executed on an open string, in the same style as in the second half of bar 5. Because of the intense use of fingers needed to produce the tremolo in pizzicato, the accompaniment could only be continuous on open strings when played simultaneously with the melody (Ex. 13).

Example 13. Paganini, *God Save the King*, Variation 4, bars 7-10
The technique of playing a melody with left-hand pizzicato accompanied by bowed notes would be further explored later. In the 1850s, the Polish violinist Henryk Wieniawski finished two works in which he experimented with and developed this technique. The first occurrence that one finds is in the third variation of the last study of *L'ecole moderne*, also known as *Les Arpèges*. This piece was composed between 1853 and 1854\(^{76}\) and consists of variations on the national anthem of the Austrian Empire. Apart from the anacrusis, the melody is completely continuous in pizzicato in crotchets and quavers. Here, the accompaniment consists of more or less uninterrupted long arpeggio scales in *legato*, and has thus become much more mobile and varied (Ex. 14).

Example 14. Wieniawski, *L'Ecole moderne*, no. 9, variation 3, bar 1, see also Rowe op. cit., p. 254

The balance between the parts is different here since the accompaniment is not sacrificed to allow a lot of activity in the melody. The accompaniment is given the opportunity to be more mobile thanks to fewer restrictions in which fingers are available to play it. This makes the accompaniment less dependent on the melody, and both the parts become more convincing as melody and accompaniment respectively. This way of applying the technique feels more realistic and alive, also thanks to plenty of part-crossings (Ex. 15). Furthermore, a sensation of intimacy seems to appear in the interaction between the parts.

The great mobility in the accompaniment part aids in visually making the execution of the pizzicato part somewhat concealed. Thanks to this it is less obvious that the left hand is responsible for the execution of both parts at the same time. This enhances the intimacy between the parts, and creates the illusion that only the accompaniment is played on the violin, with the melody played as of itself. Played in this way the solo violin can now create a more realistic illusion of a plucked instrument being simultaneously accompanied by a violin.

Wieniawski also used this technique several times in the second variation of Theme original varié composed in 1854. Here the pizzicato melody is played in crotchets and quavers with an accompanying part in bowed triplet quavers. The melody in this variation is played continuously in pizzicato, with the exception for bars 23 and 24 where bowed notes play the melody instead. Even though the melody is not played completely continuously in pizzicato, the technique could out of certain other aspects still be seen as having developed more than before. The accompaniment is more even and cooperative as it consists of significantly fewer notes per beat than the melody part, and since it does not run in high registers any more, neither taking focus nor stealing attention from the melody. The fewer number of notes does not affect the illusion of the melody being played as of itself, nor does it compromise the speed of the melody part. This can be played more smoothly, and is no longer distracted as it is no longer made subordinate or notated as being the second of the parts. The melody notes are also executed with smaller intervals to the accompaniment, creating a better balance and feeling of independence between the two parts. Because of this the melody can also be played at a higher tempo compared with Les Arpèges, and since the melody has fewer notes the execution of the melody is more concealed, and in this sense the illusion of a violin accompanying a plucked solo instrument playing at the same time is more successful (Ex. 16).

77 According to ibid., p. 70f.
Example 16. Wieniawski, Theme originial varié, variation 2, bars 20-24
4. Ernst's contribution to the development of left-hand pizzicato

In this section, Ernst's contributions to the development of left-hand pizzicato are accounted for, and analysis of adequate musical examples from his compositions are given. All musical examples in this chapter are provided and discussed here for the first time if not otherwise stated, and have been compared with those from the last chapter in order to demonstrate the development of the technique. As in previous chapters, statements regarding the reception of these techniques and effects are cited where found.

4.1 Left-hand pizzicato as accompaniment to bowed notes

In the variations on *The Last Rose of Summer*, the sixth of the *Mehrstimmige Studien*\(^{78}\) composed probably somewhere between 1862-1864,\(^{79}\) Ernst had developed the technique of bowed springing arpeggio with simultaneous accompaniment of left-hand pizzicato, discussed in the previous chapter (Ex. 17).

Example 17. Ernst, *Mehrstimmige Studie*, no. 6, Variation 2, bars 38-39, see also Rowe, op. cit., p. 253

Here the accompanying part is also quite mobile, managing to stay unrestricted despite the very mobile first part. Furthermore, it is not limited to open strings. The two parts cross each other, and only the highest string is used exclusively by the first part. The part-crossing occurs as often as every other time a note of the accompaniment is played, and then there is only an interval of a third between them. These two factors increase the intimacy between the two

\(^{78}\) This composition is also known as *Etudes pour le violon à plusieurs parties composées* or *Polyphonic Studies*.

\(^{79}\) According to Rowe, op. cit., p. 288.
parts. Because the first part is so mobile in addition to occupying all the strings through the arpeggio, the pizzicato accompaniment is intimately integrated with the first part, and on the whole, there is a more realistic illusion of two different instruments playing at the same time. The second time this figure is played there is a molto ritardando thus displaying the technique in a slow tempo, which clarifies the features of the effect.

4.2 Left-hand pizzicato in three-part harmony

In this section, Ernst's contribution of left-hand pizzicato in three-part harmony is discussed. Here, as in the example in the previous chapter, a bowed melody as the first part is accompanied by a bowed second part and pizzicato as the third part. This section consists of two subsections. The first section deals with the kind of three-part harmony that has three clearly distinguishable parts, but where the melody is only accompanied by one other part at a time, named Left-hand pizzicato in simple three-part harmony. In the second section, examples where the melody is accompanied by both of the other parts at the same time, as in the third variation of God Save the King, are discussed. This is named Left-hand pizzicato in advanced three-part harmony.

4.2.1 Left-hand pizzicato in simple three-part harmony

The first and most important piece by Ernst where this kind of three-part harmony is represented, and so throughout the whole piece with only one exception, is Trio pour un violon. The first part is rhythmically varied, and the second part contains two figures of three bowed quavers in legato per measure. The second part feels independent from the first part, since it has its own rhythm regardless of the rhythm of the first. The pizzicato part is accompanying the first beat of every minim in form of an independent walking bass. As suggested by the title, this piece consists of what one would perceive as the realistic organisation of three independent parts, creating the impression of three different violins playing together at the same time, as in a veritable string trio (Ex. 18).
4.2.2 Left-hand pizzicato in advanced three-part harmony

The previously mentioned exception in *Trio pour un violon* is an occasion where all three parts are indeed played at the same time. When this happens, the pizzicato is executed on a non-open string even if the other parts are not (Ex. 19).
One can clearly see the influence of Paganini's style of composing in three-part harmony, consisting of a melody being accompanied by a second bowed part in tremolo and a third part in left-hand pizzicato, in Ernst's fourth variation of the *Introduction, caprices et finale sur un thème de l’opéra Il Pirate de Bellini* composed at its latest in 1839.\(^8\) Here, the intervals between the two first parts are greater, which might give the impression of them being less dependent on each other, and the pizzicato is not only plucked on open strings (Ex. 20).

A few years later in 1841 or 1842,\(^8\) Ernst composed *Le roi des aulnes*\(^8\) where this technique also occurs. Although the pizzicato is executed only on open strings, the second part feels less bound by the direction which the first part is taking, and thus feels more independent (Ex. 21).

Further use of this technique appears in *The Last Rose of Summer*. The first and second parts are more mobile (Exx. 22 and 23), and the pizzicato is executed on non-open strings (Exx. 23 and 24). Because of changes in the rhythm in the second part, there is more of a feeling of three totally separate parts (Exx. 23 and 24).

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\(^8\) According to *Chronique Étrangère*, *Revue et gazette musicale de Paris*, vol. 6, no. 68, December 1839, p. 544.

\(^8\) According to Rowe, op. cit., p. 286.

\(^8\) This composition is also known as *Erlkönig* or *Erlking*.
Example 22. Ernst, *Mehrstimmige Studie*, no. 6, Variation 1, bars 15-16

Example 23. Ernst, *Mehrstimmige Studie*, no. 6, Variation 1, bars 18-19

Example 24. Ernst, *Mehrstimmige Studie*, no. 6, Tema, bar 11

4.3 Left-hand pizzicato as melody accompanied by bowed notes

Ernst's use of a melody-part in pizzicato with the accompaniment of bowed notes, in the fourth variation of *The Last Rose of Summer*, is clearly inspired by Wieniawski. However, some refinements make Ernst's application the more developed and sophisticated. First of all, both the melody and the accompaniment are played continuously throughout the variation. The

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Rowe, op. cit., p. 254.
balance between the two parts is also better for several reasons. Firstly, there are not too many accompaniment notes per melody note, but still more than a few. Secondly, the intervals between the notes of the melody and the accompaniment at the time the melody-notes are executed, are neither very large nor are they very small. Thirdly, the accompaniment does not run in very high registers, but neither is it restricted from allowing any part-crossings. It is also not so governed by the movements of the melody, because it does not have to change direction as often in order to function together with it, making it feel more independent and convincing. Overall, the illusion of a plucked instrument being simultaneously accompanied by a violin is thus here significantly improved (Ex. 25).

Example 25. Ernst, *Mehrstimmige Studie*, no. 6, Variation 4, bars 1-5, see also Rowe, op. cit., p. 254
5. The development of harmonics prior to Ernst

In this section, the development of harmonics prior to Ernst is presented. As well as in the case of left-hand pizzicato, as discussed in chapter three, the development of certain techniques mentioned here could have occurred earlier than stated, but through improvisation and therefore never having been written down or otherwise recorded. For that reason, there is a possibility that certain known techniques could in fact have been discovered earlier than we think, and other unknown techniques today could have been lost altogether. As in chapter three, this presentation is constituted of both prior sources as well as new musical examples, provided here in order to add the appropriate information lacking in previous works which deal with the development of this technique. This is important to better understand the range of Ernst's contribution to the development of this technique, and to put it in context. As before, all the musical examples are provided and discussed here for the first time if not otherwise stated, and where found, an account of the reception of these techniques and effects has been given.

5.1 Harmonics before the nineteenth century

Natural harmonics had been used on the trumpet marine ever since the later Middle Ages. In the seventeenth century, harmonics were only used on the violin to a small extent, even if they were known. However, no references to harmonics on the violin appear either in the music or in the methods of this period.

The first extensive use of harmonics in violin music occurs in the sonatas Les sons harmoniques opus 4, composed circa 1738 by the French violinist Jean-Joseph Cassanea de Mondonville (1711-1772). In the announcement preceding the sonatas, Mondonville briefly describes the production of single, natural harmonics. In the middle of the first Allegro of the first Sonata, before the first appearance of other types of harmonics than the octave, Mondonville has written an example of the harmonic progression on the violin. Here he lists the types of harmonics used in the sonatas plus the double octave and a fifth, and the triple octave, and also where they are all situated on the violin.

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86 According to ibid., p. 252.
87 According to Boyden, 'The Violin and its Technique in the 18th Century', loc. cit.
He employs the harmonics to facilitate changes of position, and uses "~" as its notation. All harmonics, besides the octave one which is the only harmonic used that has the same position as its actual pitch, are written as two notes resembling double stops: one for the position of the finger and one for the actual pitch. The harmonics executed instead of the regular notes might be unexpected by some, since they produce a much higher pitch than would be produced were the fingers to stop firmly as usual. The types of natural harmonics Mondonville uses in the sonatas are, beside the octave, also the twelfth, the double octave, and the double octave plus a major third (Ex. 26).

Example 26. Mondonville, Sonata 3, Andantino, bars 71-73

On a few occasions, albeit only in fifth, Mondonville also employs an early use of double-stopped harmonics (Ex. 27).

Example 27. Mondonville, Sonata 2, allegro, bar 11

In the last Sonata of the set, in the tonic as well as in the dominant, Mondonville uses a double-stop consisting of a mix of a natural note and a harmonic, which he uses more extensively in the last movement. The lower notes are harmonics, and in this way one could theoretically play two notes with a larger interval between them with greater ease (Ex. 28).

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88 This is mentioned in Francesco Galeazzi, *Elementi teorico-pratici di musica*, vol. 1, 2nd edn, presso Francesco Cardi, Ascoli, 1817, p. 196: "Ma più maraviglioso delle voci Armoniche se è, che non rispondono gli stessi suoni, che risponderebbero se si calcassero giusta l'usato, le dita [...]".
Example 28. Mondonville, Sonata 6, Allegro assai, bar 3, see also Boyden, The History of Violin Playing..., op. cit., p. 384

This method of producing tones considerably extended the range of possible sonorities on the violin,\textsuperscript{89} and was appreciated by at least some. Jean-Jacques Rousseau states in his article on harmonics: "To judge them well it is necessary to have heard M. Mondonville on his violin [...] bring forth successions of these beautiful sounds".\textsuperscript{90}

Artificial harmonics were composed and described in 1761 by the French violinist L'Abbé le Fils (1727-1803) in his method Principes du violon...\textsuperscript{91} He notates these harmonics, which require two fingers to form the tone, with a square white note that indicates the position of the stopped finger. The natural harmonic on the other hand is written with regular notes, indicated by an "o". Using only artificial harmonics, L'Abbé gives examples of a diatonic and a chromatic scale through a range of two octaves. Using artificial harmonics of the double octave, and the double octave and a major third mixed with natural harmonics, he provides an example of a diatonic scale through two octaves. The first octave contains all these types of harmonics which enables the player to omit shiftings.\textsuperscript{92}

At the end of the section over harmonics in his method, L'Abbé composed a Menuet consisting entirely of the two kinds of harmonics. The artificial harmonics are here also represented by the double octave, as well as the double octave and a major third. One could consider this Menuet as being quite advanced for its time in its use of harmonics. He uses double natural harmonics in fifths and tenths, and there are two trills in bars 19 and 27 (Ex. 29).

\textsuperscript{90} Jean-Jacques Rousseau, 'Sons harmoniques ou Sons flutés', Dictionnaire de musique vol. 2, Chez Marc Michel Rey, Amsterdam, 1772, p. 214: "Il faut, pour en bien juger, avoir entendu M. Mondonville tirer sur son violon [...] des suites de ces beaux sons".
\textsuperscript{91} L'Abbé le Fils, Principes du violon pour apprendre le doigte de cet instrument et les differends agrements dont il est susceptible, Chez Des Lauriers, Paris, 1761, p. 72f.
\textsuperscript{92} Ibid., p. 73.
Example 29. L'Abbé le fils, Menuet, see also Boyden, The History of Violin Playing..., op. cit., p. 385

The real arena for the display of harmonics at this time was the Concert Spirituel in Paris. Mondonville played there from 1737, then directed the concerts from 1755 to 1762. L'Abbé similarly made his debut there in 1741.\textsuperscript{93}

In the German states, however, harmonics were not as popular at that time. Musicians that were more conservative disapproved of them\textsuperscript{94}:

When, in addition, the so-called flageolet notes are continually mixed in then begins quite ridiculous music, contending against nature with its inequality of tone, often so faint that one must prick up one's ears, but soon one would want to plug them up because of the sudden and unpleasant clatter. [...] He who wishes to perform flageolet notes on the violin does well to have special concertos or solos composed for it and not to mix in any natural violin sounds.\textsuperscript{95}

This statement by Leopold Mozart further demonstrates that the art of harmonic playing was already highly developed in 1756, when his violin school was first published. However, in the German states, at least by some, the technique continued to be associated with a less reputable type of musician, such as the vagabond violinist Jakub Scheller who frequently employed this device.\textsuperscript{96} Spohr later spoke of harmonics in terms of being one of the techniques "which in the

\textsuperscript{94} Ibid.
\textsuperscript{95} Leopold Mozart, Gründliche Violinschule, mit vier Kupfertafeln und eine Tabelle, 3rd edn, Johann Jakob Lotter und Sohn, Augsburg, 1787, p. 108, §13: "Wenn nun auch das beständige Einmischen des sogenannten Flascholets noch dazu kommt; so entsteht eine recht lächerliche, und, wegen der Ungleichheit des Tones, eine wider die Natur selbst streitende Musik, bey der es oft so still wird, daß man die Ohren spitzen muß, bald aber möchte man wegen dem gähen und unangenehmen Gerassel die Ohren verstopfen. [...] Wer das Flascholet auf der Violin will hören lassen, der thut sehr gut, wenn er sich eigens Concerte oder Solo darauf setzen läßt, und keine natürliche Violinklange darunter mischet".
\textsuperscript{96} Kirkendale, op. cit., p. 403f.
dark times of good taste the formerly so famous Scheller in small towns [...] of Germany was the best at, and which were then much admired by our fellow countrymen [...]". However, as one can hear in Spohr's statement, this device was also admired by many. For example, Ernst Ludwig Gerber heard Scheller perform in 1794 and praised his harmonics, which were played "with such trueness, lightness, and purity, that it was in no way distinguishable from organ pipes". A couple of years earlier, in an article in *Musikalische Monatsschrift*, an author had written that he had encountered harmonics for the first time twenty years earlier when he had heard Rust play. He had thought of Rust's harmonics as an excellent addition to his playing, that it was filled with wit and humour, and that he had imitated birdsong very true to nature.

Not many violin schools dealt with harmonics during the eighteenth century. Unlike L'Abbé le Fils and Leopold Mozart, Francesco Geminiani for example, made no mention of harmonics. However, in 1791 Francesco Galeazzi (1758-1819) published a method in which more advanced double harmonics were dealt with. He begins his article on harmonics by stating that they are of no small importance. Later in the article Galeazzi states that the musical example where these harmonics occur is unique and these are either constituted of two artificial harmonics, or of one artificial combined with one natural. In the latter case, three fingers are used to form the note, and the intervals that are then created are sixths, fifths (Ex. 30) and thirds (Ex. 31). What the two examples would look like written in modern notation can be seen below them, as illustrated by the author.

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98 Ernst Ludwig Gerber, 'Scheller, Jakob', *Neues historisch-biographisches Lexikon der Tonkünstler*, vol. 4, A. Kühnel, Leipzig, 1814, col. 47: "Es war im Juli 1794, als er sich hier in Sondershausen zum erstenmal hören ließ. [...] Den ganzen ersten Satz des Rondo spielte er in Flageolettönen auf seinem Instrumente so wahr, leicht und rein, daß es auf keine Weise von Pfeifwerken zu unterscheiden war".


101 Galeazzi, op. cit., p. v.

102 Galeazzi, op. cit., p. 195. "Fra gli artifizi di cui sa far uso un dotto Violinista non è di piccol rilievo, ed ornamento quello deli voci Armoniche [...]".

103 Ibid., p. 200. "Quest' esempio è nel suo genere singularissimo, e vi vorrà qualche industria per interpretarlo, ed eseguirlo [...]".

36
Michel Woldemar also has a section in his method that deals with harmonics. In the keys, where it is appropriate, he presents diatonic scales of one octave with natural harmonics, mixed with artificial harmonics of the double octave. Since the scales are executed in the third position, which omits shiftings, the player is able to execute the scales more smoothly and rapidly compared with the example provided by L'Abbé le Fils.\textsuperscript{104}

\textsuperscript{104} Woldemar, op. cit., p. 50f.
5.2 Harmonics from the nineteenth century

The harmonic playing experienced a veritable renaissance with Nicolò Paganini, who used them on an unprecedented scale in many of his compositions. This technique must have been quite unfamiliar in the German speaking parts of Europe at the time of Paganini's appearance, because contemporary reviews are full of astonishment at the novelty, and theoretical sources from the early nineteenth century emphasise that the subject of harmonics had never been adequately addressed before.\(^{105}\) Gottfried Weber stated about Paganini's harmonics:

His harmonic playing is indeed something quite different from that which was hitherto known on the instrument; it is not limited to the few partial tones rendered by the open strings; it does not timidly gather together a connected phrase from the incomplete series of these few so-called natural or open harmonics and fill out only single, thus created gaps by stopping with the first finger and touching with a higher one (the so-called artificial or stopped harmonic); but it is the employment, limited by no difficulty, of every artificial harmonic necessary for any given melody, even for whole two-part melodies, -which truly borders on the incomprehensible.\(^{106}\)

A report of a concert of Paganini's in the Kärnthnerthor-Theater in Vienna asks: "Who could fail to be captivated by the Aeolian sounds of the glockenspiel and the charming intricacies of the flageolet notes, which have never before been heard with such clarity?",\(^{107}\) and Carl Seidel thought that Paganini's double harmonics "spoke powerfully to the heart and was truly enchanting in the way they recurred".\(^{108}\) On the other hand, Johann Heinrich Küster had praised his harmonic playing in an article about the execution of the technique, already in 1819, several years before Paganini left the Italian states: "Paganini proves how he better than others, with incredible skill, good taste and ingenious ways, knows how to play these, simple as well as

\(^{105}\) Kirkendale, op. cit., p. 404.

\(^{106}\) Guhr & Weber, op. cit., p. 83: "Sein Flageolettspiel ist in der That etwas ganz Anderes, als das, was man bisher auf dem Instrumente kannte; es ist nicht das, auf die wenigen, grade als Aliquotöne der leeren Saiten sich darbietenden Töne beschränkte, und aus der lückenhaften Reihe dieser wenigen sogenannten natürlichen oder leeren Flageolettöne, ängstlich eine zusammenhängende Tonfigur zusammenlesende, und nur einzelne dabei entstehenden Lücken durch Greifen mit dem ersten, und Anlehnen eines höheren Fingers (durch sogenannte künstliche oder gegriffene Flageolettöne) ausfüllende, sondern ein durch keine Schwierigkeit beschränktes Gebrauchen jedes zu jeder beliebigen Melodie erforderlichen, künstlichen Flageolet-Tones, sogar zu ganzen zweistimmigen Melodien, - was freilich ans Unbegreifliche grenzt".


double, in fast and slow movements, without suffering a single failure”. In the same article, Küster discusses the advantages of harmonics, how to execute and notate them, and attaches musical examples in the appendix. They consist among other things of scales of single and double harmonics as well as mixes of natural notes with harmonics, but in much greater intervals than Mondonville, which without the aid of harmonics would be impossible to achieve.

The opinions about this new extensive use of harmonics remained divided however. In an article from 1836, George Hogarth says about Paganini’s use of harmonics: "But the skillful treatment of harmonics is not peculiar to him, nor did it originate with him; and we always felt that his over-use of this resource was rather a blemish than a beauty in his playing”. Spohr, along with representatives of the French school in general only found a limited use for harmonics. He was sceptical towards this device because of its lack of tonal affinity with stopped notes, and particularly disapproved of entire melodies played in harmonics. He stated in his method that whenever melodies are "played in such childish, alien tones, it amounts to degradation of the instrument". Upon hearing Paganini execute passages with artificial harmonics, Pierre Baillot plugged his ears, thus showing his disgust. According to Paganini himself, his harmonic playing sometimes caused discerning listeners to follow Princess Elisa, who not always endured until the end of his concerts, and sometimes did not even appear, because the flageolet tones of his violin shattered her nerves too much. That the sound of harmonics seemed to be nerve-shattering to some is also described by the French music critic François-Joseph-Marie Fayolle.

110 Ibid., col. 701f.
112 Wąsowski, loc. cit.
113 Stowell, Violin Technique and Performance Practice, op. cit., p. 221.
115 Wąsowski, op. cit., p. 97.
116 Schottky, op. cit., p. 368: "Ich, begann er, spielte zu Lucca, wo ich jedesmal die Opern zu dirigiren hatte, wenn die regierende Familie das Theater besuchte, jede Woche dreimal bei Hofe, und veranstaltete alle vierzehn Tage bei den feierlichen Zirkeln ebenfalls ein großes Concert, wobei aber die regierende Fürstin Elisa Bacciochi, Prinzess von Lucca und Piombino, Napoleon's geliebteste Schwester, nicht jedesmal erschien oder bis an den Schluß ausharrte, weil die Flageolet-Töne meiner Violine ihre Nerven zu sehr erschütterten”.
117 François-Joseph-Marie Fayolle, Paganini et Bériot; ou, Avis aux jeunes artistes qui se destinent à l’ seignement du violon, Legouest, Paris, 1831, p. 60f: "Quand Paganini ne joue que le solo sans accompagnements, l'effet des sons harmoniques trop prolongé agace ses nerfs et ceux des auditeurs dont le système nerveux est irritable. Aussi les musiciens de l'orchestre sont-ils plus sujets que d'autres à en souffrir".
As previously mentioned, Paganini's use of harmonics went far beyond that of his predecessors and was certainly quite novel. With the aid of harmonics he extended the range of the G-string to at least three octaves and a major sixth, as could be seen in Maestosa suonate sentimentale - Introduction and variations on the national anthem of the Austrian Empire, composed in 1828, which was played solely on the G-string. Later, the notation of artificial harmonics developed its modern looks (Ex. 32). Compared to the earlier notation used by L'Abbé le Fils, the square white note changed places with the natural note, and also its form to a minim. At some point, probably in the latter part of the nineteenth century, the minim became a diamond-shaped note, which is still its current notation.

The usage of trills in artificial harmonics, as below in the second variation of I Palpiti, was probably Paganini's own innovation (Ex. 33).

Before Paganini, there does not seem to exist any records of artificial harmonics in double stops where all four fingers are employed simultaneously. This however, can be seen in I Palpiti, composed in 1819 (Ex. 34).

118 According to Kirkendale, op. cit., p. 404.
119 According to Neill, op. cit., p. 893.
120 According to Moser, op. cit., p. 435, the modern notation of harmonics could be tracked back to Baillot, but it has not been able to be confirmed: "Ernst hingegen kommt in seinen dem "Kunstbruder" Bazzini gewidmeten Variationen über die "letzte Rose" schon mit einem System und der heute üblichen Bezeichnungsweise aus, die wahrscheinlich auf Baillot zurückführen ist".
121 According to Kirkendale, loc. cit.
122 According to Neill, loc. cit.
This way of playing melodies in multiple stopped harmonics was a familiar feature in Paganini's compositions.

Perhaps the strongest testimony to the impact of Paganini's extensive usage of harmonics is all the special harmonic methods that began to emerge from the 1820s, one of the most significant of which is that of Carl Guhr. At the beginning of his method he writes:

Prompted by several fellow-artists, I decided to formulate [...] in a sort of system especially harmonic playing, which is rarely discussed completely in instruction books. [...] Quite unjustifiable, the more recent violin school has totally neglected harmonic playing, because when it is employed ingeniously, with judgment and taste, it is not only of the greatest effect, but also excellently conveyed the delicate conduct of the bow.

The section about harmonics in Guhr's method seems at least partially based on the article by Küster, and here Guhr lists diatonic and chromatic scales in single and double stops extensively in a great variety of keys and intervals.

While musical progressives praised Paganini, tradition-bound classicists, such as Spohr, as previously mentioned, decried him, regarding him at best as a madman, at worst as a dangerous revolutionary. In his method, Spohr had stated that only natural harmonics at the quarter-, third- and half-way points of the string should be used, and he advised young violinist not to

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123 Kirkendale, loc. cit.
126 Spohr, *Violinschule*, loc. cit.
use harmonics as Paganini did.\textsuperscript{127} Interestingly, six years\textsuperscript{128} after the publication of his method, Spohr composed a string quintet where he actually used harmonics at the lower end of the string, something he had earlier frowned upon.\textsuperscript{129} It seems that the conservative Spohr in the end must have accepted the advantages and widespread popularity of those kinds of harmonics.

Following the extent, ease and imagination with which Paganini employed harmonics, it became a very popular and accepted device of expression on the violin. Spohr's appeal to the younger generation not to use harmonics in a more advanced fashion seemed to have been futile, because the device began to be employed and further explored by subsequent violinists after Paganini\textsuperscript{130} even though they, as in the case of left-hand pizzicato, used the device more tastefully and when it was needed rather than as an obvious returning device for the sheer sake of it.

One of them was the Polish violinist Karol Lipiński. He employed a two-note tremolo, comprising successions of harmonics and natural notes which produced a new kind of sonority. This technique creates the effect of a smooth, rapid succession of double notes at a greater distance from each other, which may bring to mind a kind of tremolo used on keyboard instruments. It is only possible to execute such figures on the violin with the aid of harmonics (Ex. 35).\textsuperscript{131}

Example 35. Karol Lipiński, \textit{Caprice} op. 27 no. 3, bars 294-296, see also Wasowski loc. cit.

\textsuperscript{127} Ibid.: "[...] besonders die sogenannten künstlichen Flageolet-Töne müssen, weil sie von dem natürlichen Tone des Instruments ganz abweichen, als untauglich verworfen werden. [...] So grosses Aufsehen der berühmte Paganini in neuester Zeit durch das Wiedererwecken des veralteten und schon ganz vergessenen Flageoletspiels und durch seine eminente Fertigkeit darin auch gemacht hat und so verführerisch ein solches Beyspiel seyn mag, so muss ich doch allen jungen Geigern ernstlich rathen, ihre Zeit nicht bey dem Studium desselben zu verlieren und darüber Nützlicheres zu versiumen. Als Autoritat für diese Ansicht kann ich die grössten Geiger aller Zeiten anführen, z.B. Pugnani, Tartini, Corelli, Viotti, Eck, Rode, Kreutzer, Baillot, Lafont u.a., von denen auch nicht einer in Paganinis Weise flageolet gespielt hat".


\textsuperscript{130} Wasowski, op. cit., p. 96.

\textsuperscript{131} Ibid., p. 97.
This technique is used by Lipiński in one of his caprices, composed sometime between 1831 and 1833\textsuperscript{132} and seems to have been frequently used by him during performances, as suggested by a Lvov critic: "Mr Lipiński would not be a maestro did he not occasionally pay tribute to difficulty at the expense of beauty, and so seem to have a liking for, e. g., an extremely difficult and rapid exchange of harmonics and natural violin notes".\textsuperscript{133} Now the tremolo, as in the case of left-hand pizzicato, had also found its way into execution played together with harmonics.


\textsuperscript{133} Józef Powroźniak, \textit{Karol Lipiński}, Polskie Wydawnictwo Muzyczne, Kraków, 1985, p. 139f, cited in Wąsowski, loc. cit.
6. Ernst's contribution to the development of harmonics

In this section, Ernst's contribution to the development of harmonics is accounted for, and analysis of musical examples from his compositions are given. As in previous chapters, where found, statements regarding the reception of these techniques and effects are mentioned, and all musical examples are provided and discussed here for the first time if not otherwise mentioned. In this chapter, the discussion of Ernst's contribution of the technique of the melody tone mixed with regular notes in chords is presented for the first time.

In the end of *Airs hongrois variés*, variations on Hungarian melodies composed around 1845, Ernst introduced a new way of using harmonics by incorporating them as a melody in arpeggio-figures with bowed notes. Because of the fast motion of the arpeggio and the fact that the melody, apart from one bar, is not the highest note in the arpeggio-figure, which is the common way of playing a melody together with accompaniment in arpeggio on a violin, it is in no way visually obvious that a melody is indeed being played at the same time. This kind of part-crossing creates a high state of intimacy between the parts. The melody being executed is quite concealed within the arpeggio. An illusion is created where the accompaniment plays together with a melody on a flute-like instrument, which seems to play by itself at the same time. This accentuates the melody, and it seems to be the only application of this technique in a composition (Ex. 36). With this composition, harmonics were incorporated in arpeggio-figures for the first time.

Example 36. Ernst, *Airs hongrois variés*, bars 200-204, see also Rowe op. cit., p. 137

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134 Rowe, loc. cit.
After playing his *Airs hongrois variés* at a concert in the Philharmonic in London in April 1849, a critic from *The musical world* wrote that "his control over the manipulation of harmonics, and his unheard of capability in giving them accent and expression, were made plentifully manifest".135

Another technique discovered by Ernst was the use of harmonic notes as the melody with accompaniment by bowed notes, just as with the left-hand pizzicato in the same manner. The first time he used this technique was in *Le roi des aulnes*. Here a melody in harmonics is accompanied by staccato arpeggiated triplets, which sometimes play simultaneously with the melody, and sometimes take a brief recess during the execution of harmonics. As the melody tone, Ernst alternates between using the harmonics of the double octave and of the twelfth. This is done partially in order to be able to play different notes in the melody without changing position which would have compromised the accompaniment (Ex. 37).

![Example 37. Ernst, *Le roi des aulnes*, bars 58-60, see also Rowe op. cit., p. 97](image)

It is also done to take advantage of the possibility of executing harmonics with the same pitch on different strings, which is needed when the melody is played in such a way that shifting the position of the hand becomes necessary (Ex. 38).

![Example 38. Ernst, *Le roi des aulnes*, bars 64-66](image)

135 According to ibid., p. 171.
Here again, the execution of the melody is rather concealed from the eye, and perceived as being played almost by itself; actually even more so in this case since it is mostly played within the same position as the accompaniment, but sounds as if it was played at a much higher pitch. With its more pronounced melody, this technique creates an even stronger illusion of a flute-like instrument being, sometimes simultaneously, accompanied by a violin. This device was widely appreciated by the audience. In a review from *The Musical World* in 1844, one can read:

> The admirable manner in which the characteristic accompaniment, of twelve quavers in a bar, was sustained throughout, created the utmost surprise: and the effect of the song of the *Erl King*, rendered by harmonics, to a distinct *arpeggio* accompaniment, added delight to astonishment.136

Later, Ernst composed with this technique at the end of the fourth variation of *The Last Rose of Summer*. Instead of the melody being executed in pizzicato, as in the beginning of the variation, it is now being executed in harmonics with the same type of accompaniment. This part is able to play continuously as it moves between all strings, and every melody note is executed simultaneously with the accompaniment. This is achieved with arpeggio in chords, a couple of times in bar 11 and one time in bar 12, when the intervals between the melody notes and the accompaniment are too great to be played in any other way. One part-crossing regarding how the parts are executed individually is found in bar 9, making the melody somewhat more embedded in the accompaniment (Ex. 39). The technique in this part of the fourth variation is very effective; the melody sounds in the highest octave possible with the accompaniment sounding in the lowest possible. With this composition, Ernst is considerably more successful in creating the illusion of a flute-like instrument being simultaneously accompanied by a violin.

Ernst's final contribution to harmonic playing is related to the last two examples and is a development of the previously mentioned usage of harmonics mixed with regular notes in double-stoppings by Mondonville, and in the example by Küster. In the second, fourth and sixth of his *Mehrstimmige Studien*, Ernst uses harmonics as the melody tone mixed with regular notes in chords. When doing this, one is able to play higher tones in a lower position on the fretboard, with greater intervals possible between the melody and the notes of the accompaniment, thus creating richer, fuller chords. It also makes it possible for the melody part to act more independently in its melodic lines in relationship to one of the bass notes, and vice versa. Ernst does this in different combinations:

The melodic lines are diverging from each other (Exx. 40 and 41):

Example 40. Ernst, *Mehrstimmige Studie*, no. 2, bars 77-78
Example 41. Ernst, *Mehrstimmige Studie*, no. 4, bars 27-28

The melodic lines are converging towards each other (Ex. 42):

Example 42. Ernst, *Mehrstimmige Studie*, no. 6, Variation 3, bars 13-14

The melodic lines are both diverging from and converging towards each other (Exx. 43 and 44):

Example 43. Ernst, *Mehrstimmige Studie*, no. 6, Finale, bars 35-38

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137 The highest note of the last chord in bar 13 is a harmonic, but notated with a regular note head instead of a diamond one in this edition.

138 In the last chord of bar 36, the two lowest notes are harmonics as well, but notated with a regular note head instead of a diamond one in this edition.
In one case, in the third quaver in bar 31 in the second variation of *The Last Rose of Summer*, a harmonic is used in order to retain the melody, but here the chords are played in arpeggio, and so with a flat bass line (Ex. 45).

These kinds of chords would be impossible to play or only with the greatest difficulty without the aid of harmonics. However, using harmonics, the chords can be played without compromising the pitch of the melody and vice versa, and great intervals between the melody and bass notes can be created.

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139 The first demisemiquaver in the third quaver of bar 31 is a harmonic, but notated with a regular note head instead of a diamond one in this edition.
In this section the hypothesis is presented that Ernst may have left written works as his musical testament, along with possible reasons why his discoveries were not more noticed and why he is so forgotten today.

Ernst had struggled with illness since his mid-twenties, and in the mid 1850s it manifested itself in a more acute, painful and debilitating form. In 1857, his career as a virtuoso was at its end\textsuperscript{140} though he continued to compose. In 1862, his health had become considerably worse, and in correspondence with Charles Hallé,\textsuperscript{141} Ernst complains that he is very ill\textsuperscript{142} and has trouble writing sheet music properly.\textsuperscript{143} During this period, he subsequently underwent more advanced medical treatments, but this was of only little use.\textsuperscript{144} Now Ernst perhaps felt that he did not have much time left, and at the very least still capable of composing he wanted to leave something behind him as a testament, something reflecting his career and art. One hypothesis is that the etudes, the \emph{Mehrstimmige Studien}, since they are the last set of compositions for violin he ever wrote,\textsuperscript{145} and together with \emph{Le roi des aulnes} the technically most unique part of his work, were indeed intended as his testament.

Among these etudes one is particularly unequalled: the very last of the etudes, Introduction, Theme and Variations on \emph{The Last Rose of Summer}. Ernst discussed the etudes at least in his correspondence with Joachim,\textsuperscript{146} where clues can be found about the intent behind \emph{The Last Rose of Summer}. There are several reasons for thinking that Ernst's intention with this composition was special. It contains several modified techniques for playing polyphonically, of which most are conceived with the aid of left-hand pizzicato or harmonics. These techniques were the most developed of their kind, and occur in the Theme as well as in all the variations and also in the Finale. As Ernst said himself, he composed this piece intentionally in a

\textsuperscript{140} Rowe, op. cit., p. 218. \\
\textsuperscript{141} C. E. & M. Hallé (eds), \emph{Life and Letters of Sir Charles Hallé: being an Autobiography (1819-1860) with Correspondence and Diaries}, Smith, Elder & Co., London, 1896. All the letters are in this source translated from German to English. \\
\textsuperscript{142} Ibid. Letter of Ernst to Hallé, 29 June, 1862, Hallé, p. 273: "P.S.--I am very, very ill, my dear friend". \\
\textsuperscript{143} Ibid. Letter of Ernst to Hallé, 21 May, 1862, Hallé, p. 269: "[...] I hope you will be able to read the score; it is very unequally written out, according to the greater or lesser degree of my suffering". \\
\textsuperscript{144} Rowe, op. cit., p. 238f. \\
\textsuperscript{145} According to ibid., pp. 283-289. \\
"radically modern" way to reflect the virtuoso genre, the same genre Ernst had dedicated his whole career to, and had never abandoned even though its playing style fell out of fashion and he started getting criticism for his repertoire.\textsuperscript{147} When Ernst writes that he composed \textit{The Last Rose of Summer} intentionally, he could mean not just the way in which he composed it, but also his purpose for composing it: as a testament. This could perhaps at least partially be the reason why he made \textit{The Last Rose of Summer} the very last composition of the set.\textsuperscript{148} In his letter to Joachim, there are further clues that suggest that Ernst himself regarded \textit{The Last Rose of Summer} to be a special composition with special intentions. When talking about the etudes, Ernst only specifically mentions \textit{The Last Rose of Summer} apart from the third etude which he obviously mentions since it was to be dedicated to Joachim. Ernst writes: 

\textit{"[...] but do not be too \textit{harsh} on the last one - which consists of bravura variations on: the last rose of summer [...]"}. Interestingly, as one can clearly see in the letter, the word "not" was added afterwards: he seems initially to have left it out unconsciously when writing the sentence. This may hint that Ernst himself indeed believed that the variations would provoke such a response from others, as was his intention with these modern compositions, thus initially leaving the "not" out by mistake. This interpretation is further supported by the fact that the word "harsh" is underlined.

After describing the composition, Ernst writes: 

\textit{"If you cannot forgive me for them, please be so kind as to forget them"}, which would further confirm this hypothesis. Because of its advanced content, which seriously challenged the limitations of the instrument, \textit{The Last Rose of Summer} could very well reflect Ernst's ambition of his youth to be the most superior violin virtuoso. For the same reason it could also be his single most important contribution to violin music, as well as the single most important composition developing the techniques of left-hand pizzicato and harmonics yet written.

If this is indeed the case, then why is Ernst hardly ever associated with the avant-garde techniques of left-hand pizzicato and harmonics? One reason is that it never became popular to perform the etudes in concerts, which means they have scarcely been noticed. This was

\begin{footnotesize}
\begin{enumerate}
\item These are two examples of such reviews Ernst began to get in the first half of the 1850s: B. P., \textit{'Pariser Briefe'}, \textit{Rheinische-Musik-Zeitung für Kunstfreunde und Künstler}, vol. 2, no. 88, 6 March 1852, p. 700: 


\textit{"Von Virtuosen-Concerten müssen wir vorerst des vom Violinisten Ernst im Theater veranstalteten, stark besuchten, gedenken. Es ist immer eine missliche Sache, zwischen jetzt und früher, oder zwischen dem einen und dem andern Künstler Vergleichungen anzustellen; so viel ist unbestritten, Ernst hat in der technischen Behandlung seines überaus schwierigen Instrumentes eine bewundungswürdige Höhe erreicht; für meinen Geschmack hätte ich gewünscht, der berühmte Meister hätte mehr gesungen und gefühlt als gesprungen und gespielt"}.

\item As Rowe, op. cit. points out on p. 253, this could however have been mere influenced by Paganini and Wieniawski whose last piece of their etudes also is sets of variations.
\end{enumerate}
\end{footnotesize}
partially because of their difficulty, but also because Ernst had ceased to give public performances several years before the etudes were published, and consequently could not promote them himself. There are no known recorded performances from before Ernst's death, nor any first recorded performances whatsoever.\footnote{According to ibid., p. 288.} Quite a few editions of the etudes have been published however. Another thing that worked against the etudes was that, as previously mentioned, even if Ernst never abandoned the virtuoso style himself, history sure did. There was a change in fashion during Ernst's career, and critics started commenting, in the beginning of the 1850s, that Ernst's playing style was too virtuosic, lacked profundity, and belonged to an era already past. This change in fashion had perhaps partly something to do with the political revolutions in Europe at that time. Not long before the revolutions of 1830, the touring virtuoso began to be worshiped in a new way and became somewhat of a symbol of the heroic revolutionary; someone who challenged conservative ideals by fundamentally progressing violin techniques. Not long after the revolutions of 1848, which marks the end of the Age of Revolution, there was perhaps no longer the same need for the freedom fighting virtuoso and his message, and he and his style ceased to play a central role, and instead began to be seen as obsolete. At the time Ernst's etudes were published, the virtuoso era was already over since at least a decade, and now there was instead a demand for music with greater depth. Ernst became more and more forgotten after his death, and along with him his compositions, which were performed less and less.

These could be some of the reasons why the etudes never managed to get much attention or why they have never been adequately analysed with respect to the techniques of left-hand pizzicato and harmonics. The most important reason though, why Ernst's contributions to the development of these techniques went almost completely unnoticed, was probably Paganini. During his career, Paganini was widely regarded as both the sole inventor and developer of these techniques. They became his reserve to such an extent, that other people who also used these techniques in their playing were often regarded as mere imitators. That would certainly explain the review Ernst got in Allgemeine musikalische Zeitung after playing Paganini's *Nel cor più non mi sento* in 1830. Sadly, this opinion seems to have survived to this day, and a widespread misconception of Paganini as the final contributor to the development of left-hand pizzicato and harmonics have been perpetuated by leading musicologists\footnote{These are two examples of such statements: Edgar Istel, 'The Secret of Paganini's Technique', trans. Theodore Baker, The Musical Quarterly, vol. 16, no. 1, January 1930, p. 101: "Worshipped by his contemporaries, yet regarded with secret awe and immeshed in a maze of legends, his secret is to-day, nearly one hundred years after his death, still unexplored in its last marvellous recesses, whereas he himself was so astonishingly successful in unveiling technical subtleties theretofore undiscovered, that no one has since then been able to devise a single
since Paganini's death in 1840. This is presumably the reason why hardly any research has been
done on the development of these techniques after Paganini, and hence Ernst's contributions, as
well as those of other contemporary composers, have gone fairly unnoticed. Thanks to
Paganini, Ernst became driven to be the violinist and composer he was, and without Paganini,
it is hardly likely that Ernst would have made the contributions he did to the development of
left-hand pizzicato and harmonics. At the same time though, it is also thanks to Paganini that
Ernst's contributions have since been unjustly overlooked.

outstanding novelty in violin-playing. Paganini was and still is the Sphinx whose riddle his own and later
generations have vainly striven to solve with finality”.

Stowell, ‘...The Violin Virtuoso in excelsis?’, op. cit., p. 79: "Paganini was perhaps the greatest exponent of left-
hand pizzicato. The simultaneous combination of left-hand pizzicato and bowing was a particular effect which he
exploited with unprecedented intensity [...]". On p. 80: "Although [...] harmonics were an accepted part of the
violinist's technical vocabulary by the end of the eighteenth century, they were only rarely employed [...] Paganini,
however, extended their use to the limits of their potential, uniting them effectively with normal
playing".
8. Summary and conclusions

With the increased use of left-hand pizzicato and harmonics, the violin began to express itself outside of its original ways, by incorporating new sounds, from the first half of the eighteenth century. This development accelerated in the romantic virtuoso era, and came more and more to find its expression chiefly in compositions with variations. Since variations, as the name implies, should be varied, this naturally provoked new ideas and stimulated the development of the before mentioned techniques. One big step was in using bowed notes simultaneously with left-hand pizzicato, thus making the violin capable of expressing the role of a violin playing one or two parts, and a plucked instrument at the same time. This greatly diminished the shortcomings of the violin as merely a solo instrument incapable of accompanying itself to any greater extent, and with this development the violin was embarking upon a path towards becoming a transcendental instrument. Harmonics also fulfilled an important role, above all in facilitating shiftings and in aiding when playing higher pitched double-stopping in lower positions.

The two techniques also experienced some exchange of ideas between them. First of all, the same notation began to be used for both techniques from the middle of the eighteenth century, perhaps viewed as a general notation for extra-violinistic techniques. The tremolo which was used with left-hand pizzicato was transferred to harmonics, and the trill as well as the admixture of harmonics and regular notes were borrowed from harmonics to left-hand pizzicato. One could often see a sort of exchange taking place in the performance of these techniques. Most performers who had a predilection for one of the devices also had it for the other.

Later, at least partly as a consequence of his ambition to surpass the best violinist around, Ernst began to develop these two most virtuoso of the violin techniques. He developed the already existing technique of left-hand pizzicato played simultaneously with bowed notes. His contribution lay primarily in enhancing the intimacy between the different parts, perhaps most clearly achieved when composing in a more realistic three-part harmony. Notably in Trio pour un violon, he showed the potential of the solo violin as a truly polyphonic instrument, and enhanced the intimacy of left-hand pizzicato on the violin.

In both left-hand pizzicato and harmonics Ernst further developed earlier contributions to these techniques, but in the area of harmonics he showed greater originality. In several intimate ways he employed harmonics in a melody with bowed notes; among others he transferred to
harmonics both the technique of using left-hand pizzicato in arpeggio, as well as executing the melody with left-hand pizzicato simultaneous with played bowed notes. With the latter Ernst showed that the solo violin was capable of expressing a flute-like sound and a bowed violin at the same time, which firmly enhanced the intimacy of harmonics on the instrument. With the aid of harmonics, Ernst also showed the possibility of a more developed way of playing chords on the violin. With contributions that made the solo violin capable of simultaneously playing several different instruments in an advanced manner, Ernst enhanced the violin's transcendental qualities to a degree that arguably changed the prospects of the instrument. Most of these contributions are gathered in his etudes, and notably so in *The Last Rose of Summer*, which he seems to have written as a testament, reflecting his art and the ambitions he had since his youth.

What then happened with the development of left-hand pizzicato and harmonics after Ernst? As the virtuoso era came to an end and there was a change in fashion, the new deep, expressive style that followed did not provoke the development of new techniques as the earlier virtuoso style had. Violinists of the generation after Ernst, such as Émile Sauret and Pablo de Sarasate, did indeed use left-hand pizzicato and harmonics in their compositions frequently, but did not contribute with any new developments. The use of these techniques never completely fell out of fashion and later, new ways of producing harmonics have been developed and become an accepted part of contemporary violin music. These include, in natural harmonics; stopping the finger on more unconventional nodes; creating so called microtonal harmonics, thus producing new, and mostly dissonant, pitches. In artificial harmonics a modified way of executing harmonics by pressing the also stopped finger lightly on the string, thus producing higher pitched harmonics than with conventional artificial harmonics, has become an accepted part of violin literature. This technique is at least found in Paul Archbold's unpublished composition *Gauge Symmetries* from 2002. Concerning left-hand pizzicato, one development after Ernst is the use of the technique on open strings as simultaneous accompaniment to a melody in harmonics, as seen at least in the Chilean composer Juan Amenábar's unpublished piece *Feedback* from 1964. With this development the violin has taken the role of a plucked and a flute-like instrument playing together, that is, sounds have been created on the violin of two different instruments playing at the same time, none of which was a violin. After several exchanges of ideas between left-hand pizzicato and harmonics, the two had now been joined together.

Considering the use of left-hand pizzicato and harmonics as devices enabling the violin to play the role of several different instruments, simultaneously or not, in a more advanced fashion, Ernst's previously mentioned discoveries still appear however to be unprecedented,
and thus indeed are as "radically modern" as they were some 150 years ago. Ernst contributed to the development of violin technique in other areas as well, but in left-hand pizzicato and harmonics the contributions are the most significant. At least as a composer using the techniques of left-hand pizzicato and harmonics, it seems that Ernst succeeded in his ambition from his early career, to be unprecedented in his genre. The absence of appreciation and proper studies of Ernst's contributions to the development of left-hand pizzicato and harmonics is unfair, and propagates an inaccuracy in music history. To neglect his contributions is consequently to neglect the outlook of the violin and its potential as an instrument.
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Appendix

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