NORTHWESTERN UNIVERSITY

Is the “Paganini Tourte” actually “Il Cannone?” The Organology of Niccolò Paganini’s French Transitional Violin Bow

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By

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Abstract

The Paganini Tourte is a French transitional violin bow that was used by the violinist Niccolò Paganini (1782-1840) at the peak of his concert career from 1831-4. “Il Cannone” is the term used for a 1743 Guarneri *del Gesù* violin played by Paganini and now owned by the City of Genoa, Italy. This study reviews the evidence that the term “*il cannone*” originally applied to Paganini’s violin bow rather than his violin. The historical use of the violin term “*il cannone*” is reviewed as is the historical accuracy of the belief that Paganini’s violin was “as loud as a cannon.” The Paganini Tourte violin bow is analyzed in terms of Paganini iconography, biography, and bowing technique as well as the taxonomy of French transitional violin bows. The connection of the Paganini Tourte violin bow to elite violinists of the French Revolution and the use of cannon as a musical effect in opera during the Jacobin Terror of 1793-4 suggest that the Paganini Tourte violin bow was believed to be as persuasive as cannon decades before Paganini acquired it and that Paganini sought out this specific violin bow for precisely that reason.

Acknowledgments

I would like to thank the many great faculty at Northwestern University and especially my final project committee members, Professors Gerardo Ribeiro, Scott Paulin, and Hans Jensen. I would also like to thank the person who made the decision to push the Paganini Tourte towards researchers and performers rather than collectors, Paige Ben-Dashan of Bein and Fushi, Inc. Finally, I would like to thank Dr. Gerald Gaul, who introduced me to the Paganini Tourte nearly five years ago and who has generously allowed me access to his library, his archival materials, and his encyclopedic collection of transitional violin bows.

To my parents, Larissa and Nikolai Kossovich

To my dear friend, Gerald Gaul

In memoriam, my professor at Moscow Conservatory,

Ara Grachikovich Bogdanian

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INTRODUCTION

The death inventory of Niccolò Paganini (1782-1840) includes three musical instruments, one violin and two violin bows (Illustration No. 1).[1] These three instruments were in the possession of the great Italian violinist in Nice, France in May of 1840. One of the violin bows mentioned in the inventory passed from Paganini's heirs to the Swiss composer and musicologist, Graziano Mendozzi, along with concert clothes, diaries, and other memorabilia (Illustration No. 2). In 1994, the Paganini violin bow was bought by the American violin bow expert, Paul Childs, who identified the violin bow as a French transitional bow, i.e., one of the bows used during the Classical Period that was not clearly a baroque or a modern design (Illustration No. 3). Childs gave the bow a name, the "Paganini Tourte," because it was the only bow owned by Paganini that was created by the Paris workshops associated with the brothers Nicolas Léonard and François Xavier Tourte. In 2019, the Paganini Tourte was sold to an amateur researcher of violin bows of the Classical Period, Dr. Gerald Gaul. Dr. Gaul compared the bow to the bow in a painting of Paganini by Daniel Maclise from 1831 (Illustration No. 4). This portrait was based on many sketches by Maclise done during Paganini's successful appearances in London that year, and is one of the most accurate portrayals of Paganini's violin and violin bow.

[1] To my knowledge, no part of this inventory has been previously published. The copy seen here was part of the documentation of the violin bow given to Dr. Gaul at the time of the bow's sale in 2019. Paganini's last will and testament is discussed in Nicolas Sackman, "Niccolò Paganini's *Cannone* violin and David Laurie's "Canon" violin: some considerations." 2018, accessible at www.themessiahviolin.uk/Paganini_Cannone.pdf, 17. Sackman notes that while Paganini was touring Europe from 1828-1834, the bulk of his violin collection was held by Carlo Carli in Milan. Ibid., 5-6. One of Paganini's biographers created an inventory of Paganini's instruments at the time of his death. This inventory includes instruments that were held outside of Nice, but no violin bows. Geraldine I. Cide de Courcy, *Paganini, the Genoese*, Vol. II (New York: Da capo Press, 1977), 388-391.

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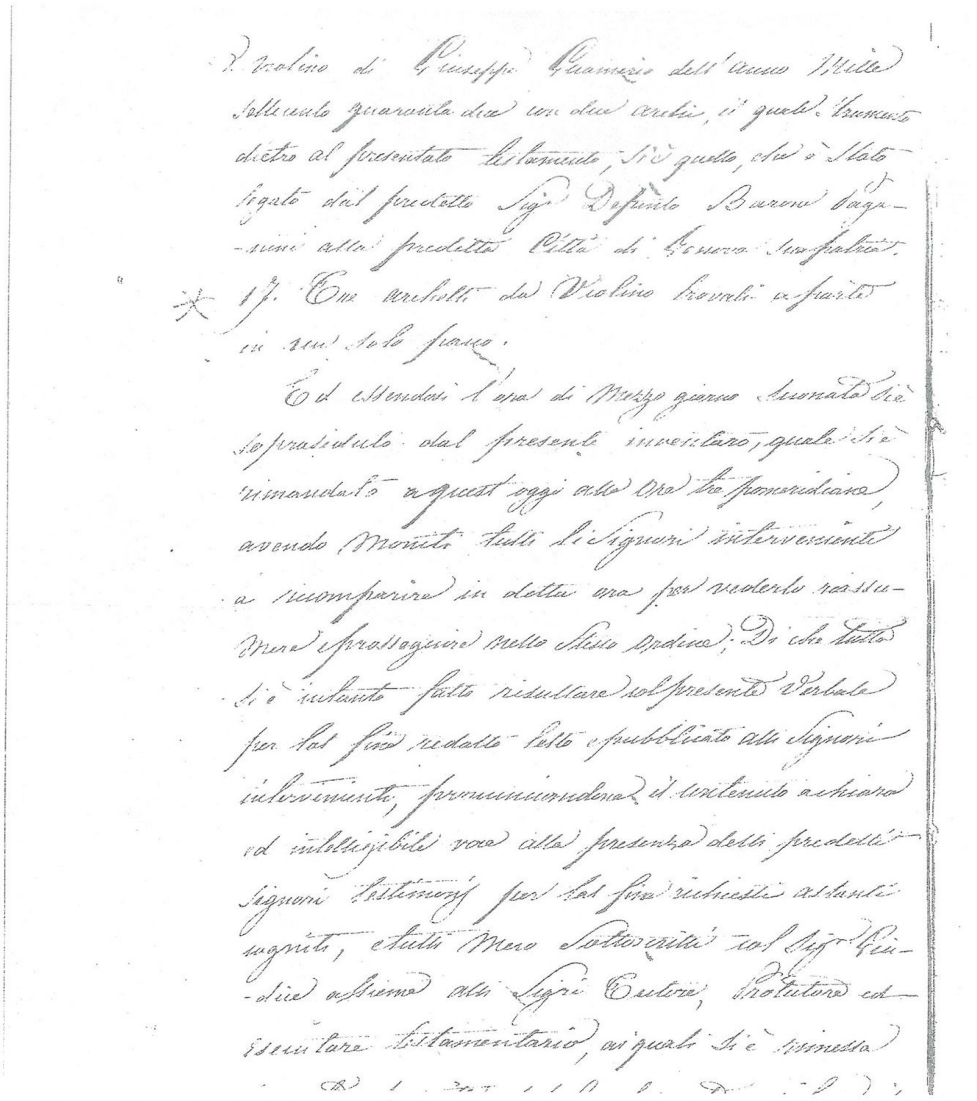

Illustration No. 1. The Paganini Death Inventory. The mention of two violin bows, "*Due Archetti da Violino"* is indicated. Courtesy of Dr. Gerald Gaul.

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CONFIRMATION

TO WHOM IT MAY CONCERN

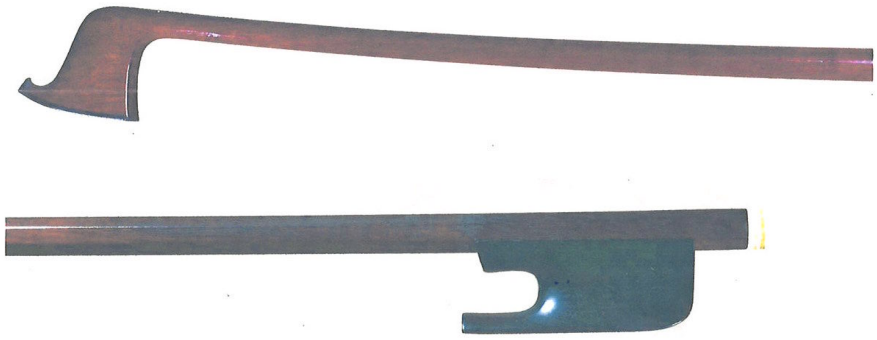
I hereby confirm that the violin-bow pictured beneath has been sold by me to Mr. Paul Childs of Montrose N.Y. in about 1994.

At the time I had this bow in consignment from the musicologist-composer Sig. Graziano Mandozzi, Ticino (Switzerland), who had bought it - with many other memorabilia, including the concert tuxedo, diaries etc. – directly from the descendants of the great violinist-composer Nicolò Paganini (1782-1840).

This bow is one - out the three items - mentioned in the Maestro's inventory, of which I add a copy here after.

Basel, April 14th 2015

Michael A. Baumgartner
Luthier-expert



e-mail: baumgartner@magnet.ch

Illustration No. 2. Confirmation of Provenance from Michael Baumgartner. Courtesy of Dr. Gerald Gaul.

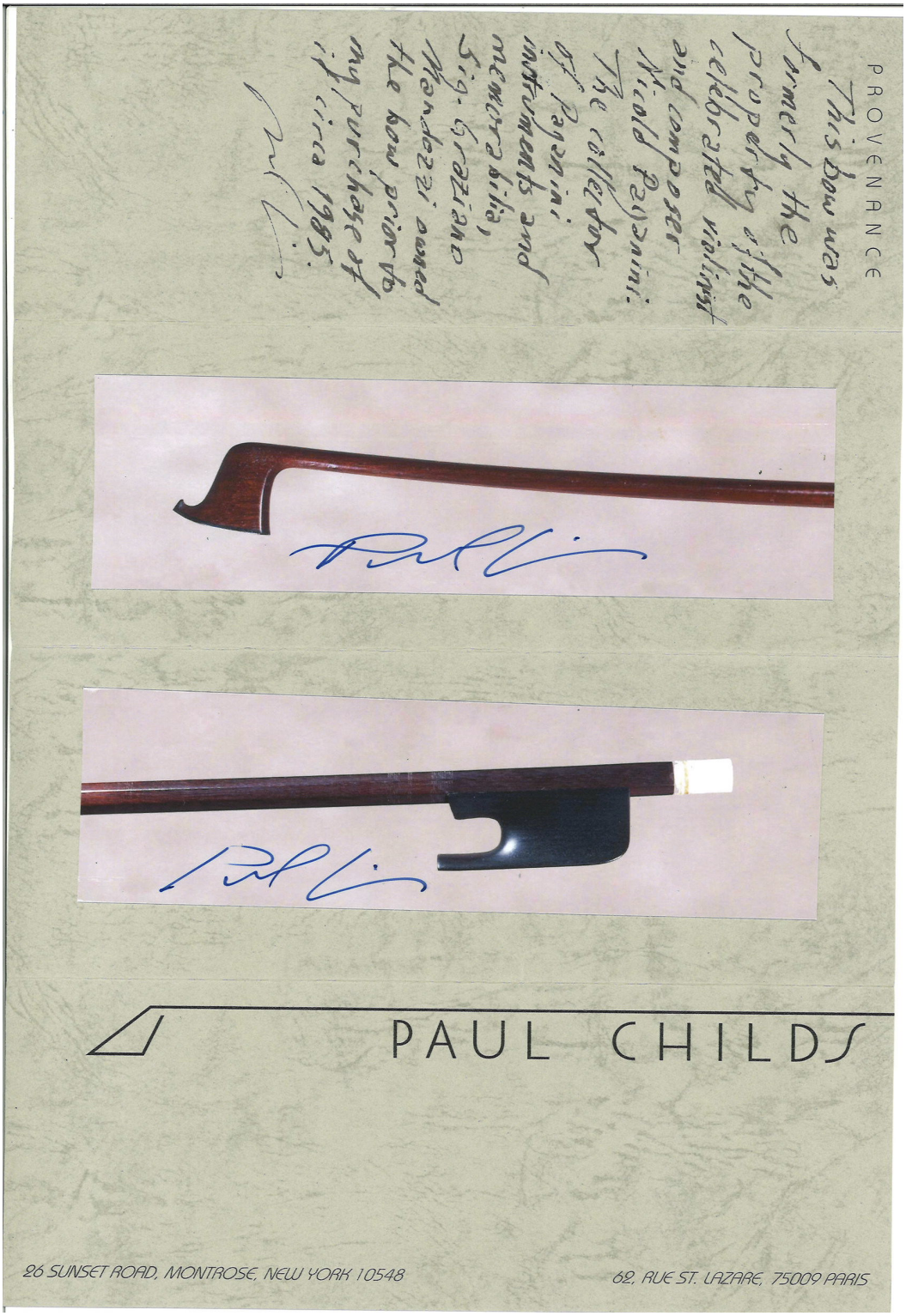


Illustration No. 3. Certificate of Paganini Tourte from Paul Childs. Courtesy of Dr. Gerald Gaul.

Illustration No. 4. Paganini using the Paganini Tourte in a Portrait from 1831. This picture now hangs in the Royal Academy of Music, London and is the property of the Dover Museum.

The Maclise portrait is sufficiently detailed that the typical late French transitional engraved collar of the Paganini Tourte could be seen on the bow screw adjuster button, a detail that supported Dr. Gaul's assessment that the Paganini Tourte was the bow used by the violinist at the height of his concert career from 1831-4. In Dr. Gaul's opinion, this was one of the only surviving examples of the precursor to the modern violin bow, the Viotti bow.[2]

The term "Il Cannone" generally refers to the Guarneri *del Gesù* violin used by Paganini at the peak of his fame.[3] This violin was donated to the City of Genoa by Paganini's son Achille in 1851.[4] Presumably, this is the violin mentioned in Paganini's Niçoise death inventory.[5] Paganini is only known to have referred to his instrument being "*il cannone*" once.[6] On July 16 1833, Paganini wrote to his friend, Luigi Germi,

> The horrible winter in Paris kept me indisposed for six months and here [in London], through a cabal of malicious persons, I've done no business; but I knew how to resist this conspiracy and I obtained, as I proceeded with my violin artillery piece, their shame and my triumph.[7]

The "cabal of malicious persons," probably refers to a small number of Italian expats living in England who wrote letters to the London press complaining about Paganini's unwillingness to

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[2]Gerald Gaul, *The Missing Strad: The Story of the World's Greatest Violin Forgery* (Altona, Canada: Friesen Press, 2021), 131. The Viotti bow was named after the Italian violinist Giovanni Battista Viotti (1755-1824).

[3] Sackman, "Cannone," 8. Guarneri was a family of Italian violin makers. *Del Gesù* was Bartolomeo Giuseppe Guarneri, the most famous maker of the family. Ibid., 1-3.

[4] Ibid., 19-25.

[5] The second bow mentioned in the death inventory was probably the one examined by Jean-Baptiste Vuillaume in Paris in the 1830s. Sylvette Milliot, *Jean-Baptiste Vuillaume et sa famille* (Spa, Belgium: Les Amis de La Musique, 2006), 86. This bow was an Italian transitional model and is compatible with the 1820 portrait of Paganini shown as my Illustration No. 5. The whereabouts of Paganini's Italian transitional violin bow is not known.

[6] Sackman, "Cannone," 8.

[7] My translation. The original is *L'orrido inverno a Parigi me tenne indisposto sei mesi. Qui, per cabala del maligni, no feci affari; però ho saputo resistere alle congiure, ed ottenni col mio procedere ed il mio cannone violino l'onta loro e il mio trionfo.* Sackman, "Cannone," 8. Note that in Italian, adjectives most often follow the nouns. Paganini is not describing a violin that is like a cannon, but a cannon that is related to his violin.

play benefit concerts during the Spring of 1833.[8] This bad press contributed to the failure of Paganini's 1833 London concerts. After playing his first concert of the season to a thin crowd at The King's Theater, Paganini's concerts were moved to a smaller theater and ticket prices were lowered.[9]

The context of the letter does not make it clear whether Paganini ascribed his triumph to his violin, his violin bow, or both together. He does not indicate that either his violin or his bow was as loud as a cannon. The Guarneri *del Gesù* violin that Paganini used in London in 1833 was not his most powerful instrument. Of all his instruments, the violin that Paganini felt created the largest volume of sound was his 1724 Antonio Stradivari violin. According to Paganini, "The Stradivari which I have left in Italy, and which I consider to be the father of all violins, has a tone almost as big as that of a contrabass, so distinguished is it by its power."[10] Moreover, there was no identifiable violin "triumph" for Paganini in London in the early part of 1833. The largest part of Paganini's violin performances of 1833 occurred in the English provinces after the "*il cannone"* reference.[11]

Although he had no significant successes as a violinist in 1833, Paganini did find success as a violist in May of that year. Paganini stopped using the Paganini Tourte as a violin bow in April of 1833. In that month he had his Italian friend, Luigi Germi, send him an Italian transitional violin bow and a violin work by the eighteenth-century Italian composer, Nicola Mestrino.[12] This was a reversion to the violin bow and the violin music that had made him

[8] Cide de Courcy, *Paganini*, II 131.
[9] Ibid., 131-132.
[10] Sackman, "Cannone," 6.
[11] Cide de Courcy, *Paganini*, II 133.
[12] Ibid., 130.

famous in the years before 1828. At the same time, Paganini recast himself as a viola virtuoso. In the spring of 1833, Paganini purchased a Stradivari viola.[13] With this viola and the Paganini Tourte, Paganini had his one great success of the first half of 1833, a viola performance that took place in mid-May:

> PAGANINI. It has been frequently said that this extraordinary performer could not take a part in a quartet with any effect. This is far from being correct. At a *soirée* given by Dr. BILLING, the other evening, PAGANINI, MENDELSSOHN and LINDLEY, performed a trio for viola, guitar and violoncello (composed by PAGANINI), [with] MENDELSSOHN playing the guitar part on the pianoforte...Paganini's performance on the tenor was of the true school: there were no tricks, no jumping and skipping, but all the passages were beautifully played.[14]

Although the press clearly approved of Paganini using the Paganini Tourte on his Stradivari viola, the press had moved on from the idea that Paganini was the most compelling violinist touring in England. The highest critical acclaim of that day's *Morning Post* was reserved for the Belgian violinist Charles-Auguste de Bériot (1802-1870), who played his own violin concerto on a concert with the Philharmonic Society:

> The sensation which DE BERIOT created in his solo we feel totally incompetent to describe. The purity of his tone, the correctness of his intonation, the beautiful crispness of his staccato, the elasticity and expression of his legato, the distinctness of his execution and shakes; all these qualities combined in him form a player, to our mind, the most perfect we ever heard on the violin. The music which he performed was also of a high order of composition, and some gestures of PAGANINI'S style were introduced, not as abstract qualities, exhibiting a mere tour de force, like such as the many half-witted imitators of the Signor have of late favoured the public with, but tastefully grafted on the original, and, in effect, as beautiful as extraordinary.[15]

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[13] Ibid., 134. Germi was involved in getting the Stradivari viola to Paganini in London, but Paganini did not ask for a viola bow.

[14] *Morning Post*, (London: May 16, 1833), 3. In Cide de Courcy, *Paganini*, 136, the date of this review is erroneously given as May 15, 1833.

[15] *Morning Post*, 3. This report was in the same column and just above Paganini's review. It was not reported in Cide de Courcy, *Paganini*.

Paganini's success as a violist and eclipse as a violinist led to his decision "to abandon the violin forever"[16] by late 1833. At same time, Paganini commissioned a viola work from Berlioz.[17] As if to solidify his decision to become a violist, Paganini abandoned his Guarneri *del Gesù* violin at Jean-Baptiste Vuillaume's shop from November 1833 to February 1834.[18] If Paganini felt his Guarneri violin rather than his Tourte violin bow was the key to triumphing over his enemies, it is hard to figure out why he decided to stop using it.

Paganini had been dead for fourteen years before the first known description of his Guarneri violin being "as loud as a cannon."[19] When his violin was donated to the city of Genoa in 1851, the city officials doubted that the gifted instrument was Paganini's violin, let alone the greatest instrument that Paganini had ever owned.[20] Trying to prove that the donated violin actually did belong to Paganini, the Mayor and the Municipal Councilors of Genoa arranged to have the instrument played by Paganini's pupil Camillo Sivori. The *Gazetta Musicale di Milano* reported the outcome of Sivori's performance on January 15, 1854. Although the newspaper reporter noted that "the violin had such a strong and resounding voice that it was called Il Cannone when it arrived from Paganini,"[21] the reporter was not particularly impressed with the Sivori performance, only expressing surprise that the violin still had intact and useable strings

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[16] Paganini's own words according to Cide de Courcy, *Paganini*, II 141.
[17] Initially a programmatic work about the last moments of Mary Stuart, eventually, *Harold in Italy*. David Cairns, *Berlioz, Volume Two: Servitude and Greatness* (Berkeley: University of California Press, 1999), 32.
[18] Milliot, *Vuillaume*, 87. In theory, the violin was being repaired after an accident in late 1833. In truth, Vuillaume used the time to make a copy of the instrument.
[19] During Paganini's lifetime, his tone was considered clear and pure but not unusually forceful. François-Joseph Fétis, *Biographical Notice of Nicolò Paganini* (London: Schott and Co., 1852), 74.
[20] Sackman, "Cannone," 21.
[21] Ibid., 24. My translation of: "*e di voce talmente forte e sonante che veniva dal suo possessore denominato il Cannone*."

from Paganini's lifetime. Thereafter, the City of Genoa encouraged Sivori to use his own violin rather than Paganini's when demonstrating Paganini's violin to visitors to Genoa.[22]

Based on the context of Paganini's one reference to *il cannone* and the lukewarm reception of his violin after it arrived in Genoa in 1851, it is reasonable to wonder if the Paganini Tourte violin bow is Il Cannone and the Paganini Guarneri *del Gesù* violin is not. In this report, I will assemble the evidence that the bow, rather than the violin, was the Paganini instrument that was considered to function like a cannon. Much of this evidence will involve the traditional task of organology, placing the Paganini Tourte within the taxonomy of French transitional violin bows. A larger part of the evidence ties itself to the music Paganini tried to create and the music that his audience expected to hear. This evidence forces a confrontation with the ethical dimension of the Paganini Tourte and its power to act with agency. As argued by the scholars of critical organology John Dolan and Emily Tresh, ethics and agency are aspects of inanimate objects that we tend to attribute to modern scientific instruments like the computer and not ancient musical ones like the violin bow.[23]

Seeing any instrument as a weapon presumes that it can be used for interpersonal violence. To understand a violin or a violin bow as a weapon, we have to ask, who did the instrument threaten and why? Critical to my argument is evidence that the Paganini Tourte's

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[22] David Laurie, *The Reminiscences of a Fiddle Dealer* (Boston, MA: Houghton Mifflin Company 1925), 71. Sivori's violin was reported to be a Jean-Baptiste Vuillaume copy of Paganini's Guaneri in 1856. François-Joseph Fétis, trans. John Bishop, *Notice of Anthony Stradivari, Remarks on Francis Tourte* (London: Robert Cocks and Co., 1864), 132. In the 1840s, Sivori had claimed that his violin was Paganini's instrument, which Sivori had received as a gift just before Paganini died. E. James, *Camillo Sivori: A Sketch of his life, Talent, and Travels and Successes* (London: Pietro Rolandi, 1845), 15-16. Sackman, comparing Sivori's instrument to the Paganini Guarneri instrument in Genoa, doubts that the Sivori's Vuillaume violin is even a copy of Paganini's Guarneri. Sackman, "Cannone," 17-18.

[23] John Tresch and Emily I. Dolan, "Toward a New Organology: Instruments of Music and Science," *Osiris* Vol. 28, No. 1 (January 2013), 283.

specific violin bow design was in use during the brief period of the French Revolution when actual cannon were used as a musical effect in opera. At this time and place in music history, the French School of Violin was given disproportionate power over political discourse. The entry of violinists into elite roles within the French School was entirely dependent on owning a particular type of violin bow: one made by the Tourte family and designed to reproduce the playing of Giovanni Battista Viotti.

PAGANINI'S VIOLIN BOWS

Paganini's violin bows have been the object of serious research. Transitional violin bows are often very difficult identify or to trace to an exact maker. Traditionally, a transitional design of a French bow has been attributed to Tourte *L'Aîné* (Nicolas-Léonard Tourte), the older brother of the more celebrated Tourte *Le Jeune* (François-Xavier Tourte). Because of this, the standard modern violin bow design has been attributed to *Le Jeune* and *L'Aîne's* creation of transitional bow designs has been considered eccentric rather than revolutionary. [24]

The underlying assumption of almost all Paganini violin bow research is that he used the modern violin bow.[25] In 1982, Robin Stowell claimed that the violin bow shown in the 1820 portrait of Paganini (Illustration No. 5) was made by a French bowmaker named Pierre Sirjean.[26] No reasonable violin bow historian would make that same claim today.[27] However, Edward Neill has reviewed Paganini's involvement in the violin bow trade and has shown that it was limited to late Italian transitional bows made in Italy.[28] The Paganini Portrait of 1820 that is my Illustration No. 5 shows him using a bow with a "battle-axe" tip, a common feature of transitional violin bows. Jean-Baptiste Vuillaume, based on observations made in the 1830s, recalled that Paganini owned a worn late Italian transitional violin bow.[29]

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[24] W. C. Retford, *Bows and Bowmakers* (London: The Strad, 1964), 43.
[25] This is the view of Giordano. Alberto Giordono, "A Fitting Conclusion." *Strad* October 2004, 1049.
[26] Robin Stowell, "Violin Bowing in Transition: A Survey of Technique as Related in Instruction Books c1760-c1830," *Early Music,* Vol 12, No 3, (August, 1984), 318.
[27] There are no accepted examples of Sirjean's work. Bernard Millant and Jean François Raffin, *L'Archet.* (Paris: L'Archet Éditions, 2000), 244.
[28] Edward Neill, "Paganini and the Violin Makers of his Time," in Carlo Nardi, *The Violinmaker Cesare Candi and Paganini's Violin* (Cremona Italy: Cremonabooks 1999), xi-xvii. Neill assumes that during his active period of violin bow trade (1824) Paganini knew nothing about the Tourte bow. Neill xiii.
[29] Milliot, *Vuillaume*, 86.

Illustration No. 5. Portrait of Paganini from around 1820. Courtesy of Dr. Gerald Gaul.

Mai Kawabata asserts that Paganini used a Cramer bow, a type of transitional bow with a battle-axe tip that was made and used all over Europe during the Classical Period.[30]
The 1820 portrait of Paganini shows the battle-axe tip, but Kawabata, focusing on the period of time after 1828, shows three caricatures of Paganini using a bow with the more modern style hatchet-shaped tip, indicating that for the most successful part of his career, Paganini did not use the Cramer bow.[31] In 1834, Paganini made a public endorsement of the Vuillaume metal violin bow.[32] This violin bow, made entirely of stainless steel, has the tip design of an eighteenth-century French transitional bow, not the modern violin bow design. This metal bow was the last French transitional violin bow design and was made in large numbers up until 1850.[33]

Two Paganini violin bows are owned by the City of Genoa.[34] Both of these bows have prominent and unusual decorations on the frog[35] that make them inconsistent with the 1820 and the 1831 Paganini portraits. Although there are countless caricatures of Paganini from his time in England and France, many do not show details of the frog of his violin bow,[36] in part because Paganini's left hand covers it up. But when the frog is clearly visible in a Paganini caricature, it is most often undecorated (Illustration No. 6). The two clearest portraits of Paganini's violin bow are seen in my Illustrations No. 4 and No. 5. Both bow images show plain, undecorated frogs.

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[30] Mai Kawabata, *Paganini: The 'Demonic' Virtuoso* (Woodbridge, England: The Boydell Press, 2013), 64.
[31] Kawabata, *Demonic*, cover, 67, 68
[32] Milliot, *Vuillaume*, 86.
[33] Gaul, *Strad*, 59-60.
[34] All three instruments were donated in 1851. Giordano, "Conclusion," 1049. The two bows may have been an attempt to convince the Genoese that they were getting all the instruments from the 1840 Nice death inventory.
[35] Ibid., 1049.
[36] A good selection of these caricatures is reprinted in Kawabata, *Demonic*.

Illustration No. 6. 1831 Caricature of Paganini. Broadman Images.

The officials of the City of Genoa either suspected or knew that Paganini's bow was the most critical instrument for Paganini's violin technique. During Paganini's lifetime, his bow worked so mysteriously that observers thought the devil controlled the actions of the bow[37] or that the bow was controlled by tiny moveable metal weights within the stick.[38] The Belgian musicologist François-Joseph Fétis put the matter more plainly: "The poetry of the great violinist consisted, principally, in his brilliancy; and, if I may be allowed the expression, the mastery of his bow."[39] There were no equivalent rumors regarding Paganini's violin. Nonetheless, Paganini had not promised his bow to Genoa, only his violin.[40] The executors of Paganini's estate had disbanded in 1844 without making any attempt to release an instrument to Genoa.[41] In the end, Achille Paganini provided the city with a reason that they were not getting a workable version of Paganini's magic bow: one of the donated bows was a badly broken and clumsily repaired modern French violin bow.[42]

In the 1830s, Paganini had broken a violin bow, but it was his original Italian transitional bow, not a modern French bow. Here is the story according to the Norwegian violinist Ole Bull:

> His [Paganini's] bow was made after the old Italian style, of a somewhat later shape than that of Tartini's. When strained to the proper tension, the stick was nearly straight. Vuillaume, when he saw this bow, laughed and inquired who could play with such a thing. When Paganini brought it to him to be repaired (he had broken the upper end), Vuillaume offered to make him another, but he was much displeased with the idea, and most decidedly declined the gift, saying he could not think of using any other bow.[43]

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[37] Fétis, *Paganini*, 55.
[38] Laurie, *Dealer*, 57.
[39] Fetis, *Paganini*, 75.
[40] Sackman, "Cannone," 17.
[41] Ibid., 20.
[42] Giordano believes that Paganini used this bow, even after it was broken. Giordano, "Conclusion," 1049.
[43] Sara C. Bull, *Ole Bull, A Memoir* (Boston: Houghton Mifflin and Company, 1883), 371.

The breakage of this bow and the unwillingness of Vuillaume to repair it makes sense of Paganini's request for a new Italian transitional violin bow from Luigi Germi in 1833. Ole Bull worked with Vuillaume in the summer of 1848,[44] and almost certainly heard the story at that time. After the broken modern French bow was donated to Genoa in 1851, Vuillaume changed his story to make it consistent with the artifact owned by Genoa. Here is how David Laurie heard the story of Paganini's broken bow in the 1860s:

> M. Vuillaume told me he had once repaired Paganini's bow. Why he had not told me before was doubtless that he considered it too trivial a matter to mention, but I will tell the story as he told it to me. Paganini called one day and brought out from under his coat the bow which he invariably used and which was broken near the head. The break was kept together by a piece of string which he had no doubt put on himself...Paganini merely asked him to repair it [the tip of the bow], but Vuillaume, pointing to the garniture or whipping, asked to be allowed to renew that. "Just as you please," was the answer...When the wrapping was taken off there lay the magic wand in Vuillaume's hands. Only two rough ends of a broken stick, which had been held together by twine, no magic of any kind about it save that of the great player's fingers, which enabled him, with this broken bow, to hold audiences entranced sometimes with celestial joy, and at others with strains of such heartrending sorrow, that many of his listeners had to leave the hall, quite unable to bear it.
>
> Well, the bow was repaired and when the owner called for it, Vuillaume asked him to accept one of his own make, which he had indeed made specially for him; remarking that it was always risky to use a broken bow as it was liable to give way again and that would be awkward, especially when playing in public.
>
> "A thousand thanks, my dear Vuillaume," said Paganini, "but I have several fine bows which I never use and I might never use yours. Nevertheless, I will not disappoint you by refusing it and I will try and use it sometimes, although so far as my experience goes the difference in the merits of bows is infinitesimal, the only difference lies with the player."[45]

In this version of the story, Vuillaume agrees to repair the bow and makes no mention of the fact that it was an Italian transitional bow. Now instead of one break at the tip, there is a second break hidden by the wrap. In the original story, Paganini does not want a modern bow because only a

[44] Ibid., 197.
[45] Laurie, *Dealer*, 57-9.

transitional bow will work for him. In the second version of the story, any variety of violin bow will do, included the bow that had been broken.

The second Vuillaume story was designed to support Achille Paganini's 1851 statement to the City of Genoa, which is affixed to the bow:

> Violin bow of Nicolò Paganini, which he adopted for use throughout his artistic career. The bow was broken into eight pieces in Newcastle (England). He had it put together by the famous luthier [Jean-Baptiste] Vuillaume of Paris, and he tried to use this bow exclusively. Attested to the truth by Achille Paganini, son of Nicolò.[46]

The uniform opinion of this bow is that it must have been broken in November of 1833, when Paganini's violin case was dropped from a carriage.[47] But how an accident that put a small crack into the violin would have shattered a bow into eight pieces is a complete mystery.

The only other bow that we know of from Paganini's letters was the Italian transitional violin bow copy that he requested of Germi in the spring of 1833. There were at least seventy Paganini Italian transitional violin bow copies commissioned by Paganini in 1824 and kept by Germi.[48] Presuming the broken Paganini bow seen by Vuillaume was discarded and replaced by the copy from Germi in 1833, one of the violin bows from Paganini's Niçoise death inventory would have been a copy of the bow he used in Italy, not the original. In 1851, donating this bow copy would have aroused suspicion in Genoa. Achille Paganini could have given Genoa the

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[46] My translation of "*Arco di Nicolò Paganini, che adoperò durante tutta la sua carriera artistica. Rottosi l'arco a Newcastel (Inghilterra) in otto frantumi. Lo fece remettere insieme dal celebre liutista Vuillaume di Parigi, ne cercò di valersi di quest'arco esclusivamente. In attestato di verità Achille Paganini figlio di Nicolò*." Mimmo Peruffo, "Nicolò Paganini and Gut Strings: the History of a Happy Find," *Recercare*, Vol 12 (2000), 137. Achille Paganini used a common variant of his father's first name. Niccolò Paganini himself would alter the spelling of his first name, depending on his mood. It could be Nicolò, or even Nicola. Cide de Courcy, *Paganini*, I 3.

[47] Giordano, "Conclusion," 1049.

[48] Neil, *Candi*, xii. Germi was allowed to sell these Paganini bow copies to interested buyers.

Paganini Tourte, but chose not to. Since no commonly available violin bow would have worked like the Paganini Tourte, breaking an unrelated modern bow was perfectly logical.[49]

Achille was in contact with Jean-Baptiste Vuillaume in the months prior to the 1851 donation.[50] In a great example of life imitating art, they modeled the broken violin bow for Genoa after another magic stick, the one broken in Giacomo Meyerbeer's opera, *Robert le Diable*, which had premiered in Paris in 1831, the same year that Achille Paganini and his father arrived. In the climactic scene of Act IV of *Robert le Diable*, a magic branch has the power to paralyze bystanders. When it is broken in the opera, the stick loses its power forever. [51] Achille Paganini would have known of this wildly successful opera. From 1828 onward, Niccolò Paganini considered Meyerbeer to be an important contact while touring.[52] Meyerbeer had helped Niccolò and Achille Paganini in Warsaw in May of 1829 and the Paganinis knew that Meyerbeer was headed to Paris.[53] The meeting with the Paganinis in Warsaw was right before Meyerbeer accommodated his score to dramatic changes in the plot of the opera.[54] Achille and Niccolò Paganini were planning to stay at the same hotel where Meyerbeer stayed when he was in Paris.[55] Achille likely borrowed the broken bow idea from Meyerbeer's opera and had every reason to believe that the officials in Genoa would believe that whatever power Paganini's violin bow once had, it had been effectively destroyed once it had been broken into bits.

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[49] And perfectly consistent with the rest of Achille Paganini's behavior in 1851 as documented by Sackman, "Cannone," 20-4.
[50] Ibid, 19.
[51] The social implications of this scene are reviewed in Robert Ignatius Letellier, *An Introduction to the Dramatic Works of Giacomo Meyerbeer: Operas, Ballets, Cantatas, Plays* (London: Routledge, 2016), 103.
[52] Cide de Courcy, *Paganini*, 305.
[53] Ibid, 335.
[54] Letellier, *Meyerbeer*, 94.
[55] Cide de Courcy, *Paganini*, 386.

After 1854, there were no additional written nineteenth-century references to Paganini's Guarneri violin as Il Cannone. David Laurie, making a pilgrimage to Genoa to see Paganini's violin in the 1860s, did not note the association with cannon.[56] George Hart, writing in 1875 and Edward Heron-Allen, writing in 1886, also do not identify the Genoa Guarneri as Il Cannone.[57] John Tiplady Carrodus visited the Genoa Guarneri in 1887. In 1895, recalling this visit, he claimed to own the Paganini Guarneri *del Gesù* instrument that was as loud as a cannon, an instrument that he called the "Canon Joseph."[58] Starting with the Canon Joseph, the accepted English chronology of Paganini's Guarneri *del Gesù* violin included an episode where Paganini had lost the instrument while gambling at some unspecified date.[59] The story was told differently by the Hill family in 1931. Now the story claimed that the fifteen-year old Paganini lost a violin by gambling and that the violin in Genoa was a replacement gifted to Paganini by one of his admirers.[60] Not only did the Hill family not specify an Il Cannone Paganini violin, according to the Hills, Paganini's playing on his Guarneri *del Gesù* violin was not as powerful as other musicians, notably Baillot.[61] The Hills knew that Paganini owned many great violins and that it was possible that he might have owned more than one Guarneri *del Gesù*.[62]

Cesare Candi, who did extensive restoration work on the Genoa Guarneri in the 1930s, mentioned that Paganini called the instrument "*Cannone*" but also noted that before its restoration it was almost unplayable. Once it was restored, Candi was proud that instrument was

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[56] Laurie, *Dealer*, 69. Sivori's violin was a Vuillaume Guarneri copy, and probably not even of Paganini's violin.
[57] Sackman, "Cannone," 26.
[58] Ibid., 28. The assumption of Gaul is that this violin was a forgery. Gaul, *Strad*, 275.
[59] Ibid., 32.
[60] William Hill, et al, *The Violin-Makers of the Guarneri Family (1626-1762)* (London: William E. Hill and Sons, 1931), 116-117.
[61] Ibid., 117.
[62] Ibid., 94, foot note.

once again suitable for "some of Paganini's most complex compositions," but does not claim that the restored instrument was powerful, let alone as loud as a cannon. Carlo Nardi, who interviewed Candi in the 1940s, refers to the instrument simply as "Paganini's Violin."[63]

At the time of Paganini's reference to his violin artillery piece in 1833, it was the violin bow, not the violin, that was most likely to be identified as a weapon. Paganini's violin was pervasively identified as being a woman, and his bow as being a weapon, perhaps a knife.[64] According to Mai Kawabata, violent thrown movements of the bow like ricochet or the irregular movements of the bow during left-hand pizzicato made the bow appear to be lashing out at the violin. When Paganini held the bow away from his violin with only a single remaining intact violin string, his attack could be seen as an act of "bodice-ripping" (Illustration No. 6, page 22). The illustration that Kawabata gives of this action shows a caricature of Paganini holding a hatchet-tipped violin bow with an undecorated frog.[65] This bow could be the Paganini Tourte, but not either of the bows kept in Genoa.

In Paganini's only reference to *il cannone*, Paganini describes using his violin-like artillery piece in order to triumph over his enemies. The threat of interpersonal violence intrinsic to artillery is denied by claiming that the only reason Paganini wrote this reference was because his violin or violin bow was loud like a cannon, not effective in battle like a cannon. To understand how the hatchet-tipped violin bow became associated with military aggression and specifically the cannon, we have to review the complex history of the French transitional violin bow.

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[63] Carlo Nardi, *The Violinmaker Cesare Candi and Paganini's Violin* (Cremona Italy: Cremonabooks 1999), 27-31.
[64] Kawabata, *Demonic*, 58-9.
[65] Ibid., 65-7.

THE CLASSIFICATION OF FRENCH TRANSITIONAL BOWS

For more than two centuries, the history of the French violin bow of the Classical Period has been derived from a single illustration in an obscure eighteenth-century violin treatise by Michel Woldemar (Illustration No. 7).[66] The Corelli and Tartini violin bows as shown in the figure are now classified as the short and long baroque bows.[67] Although the Cramer and the Viotti bow designs shown by Woldemar are now considered to be transitional, Woldemar would have thought of them as modern violin bow designs.

The term "transitional violin bow" implies that these bows formed a steady transition from the baroque bow to the modern bow. Although the transition from baroque to modern bow lasted over a century and was an international phenomenon, most of the evolution in violin bow design happened in Paris during the final three decades of the eighteenth century.[68] Since this period of time coincides with the social upheavals of the French Revolution, French transitional bows are best described as being "revolutionary bows." Most revolutionary bow designs evolved over time. There was an evolution of the French long baroque bow into the Mestrino bow. There was an evolution of the early Cramer bow into the late Cramer bow. Finally, there was an evolution of the early modern bow into the late modern bow. The Paganini Tourte does not easily fit into any of these three evolutionary lines.

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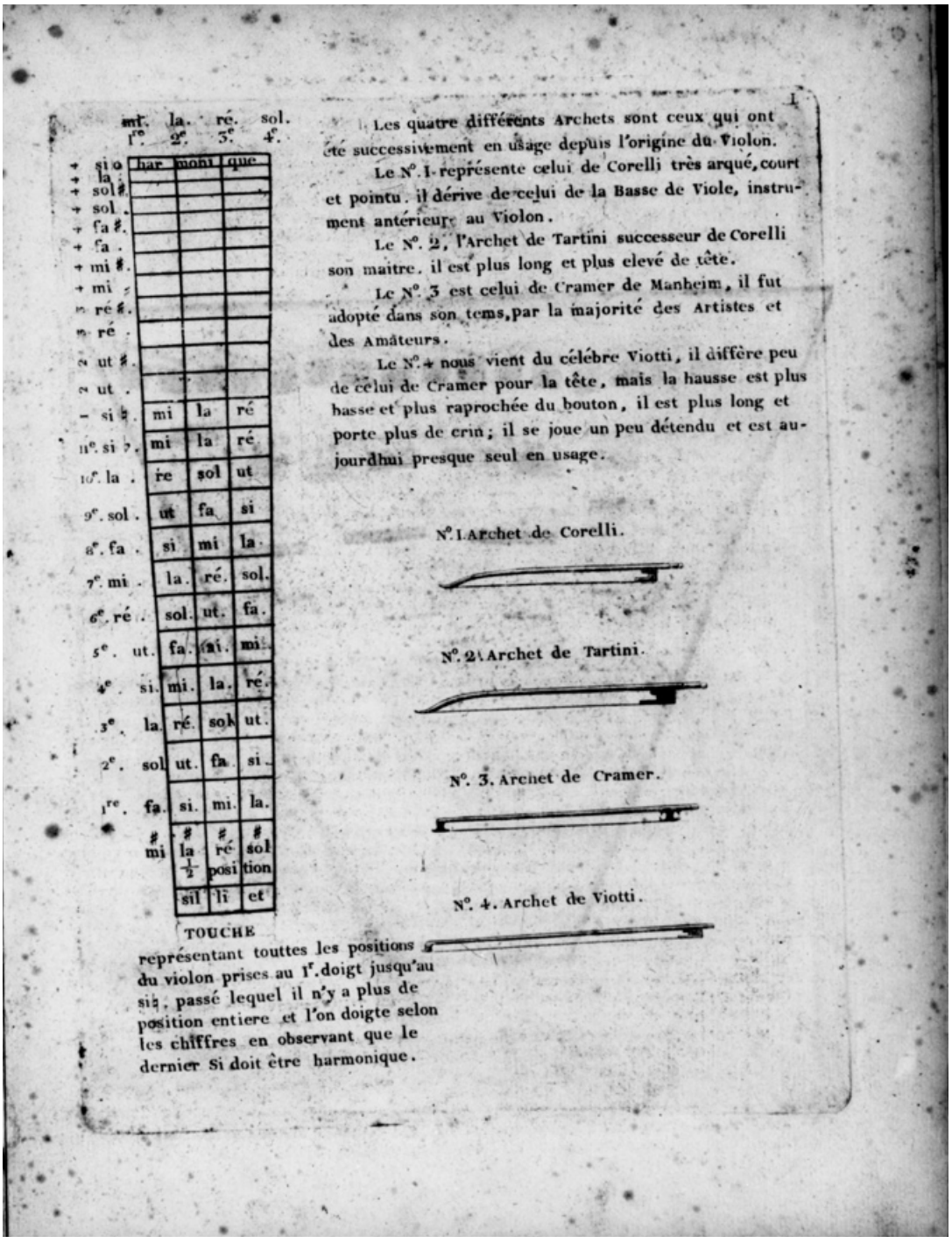
[66] Michel Woldemar, *Grande Méthode* (Paris: 1798), 3.
[67] Robert E Seletsky. "New Light on the Old Bow: 1," *Early Music,* Vol 32, No. 2 (May 2004), 291.
[68] Jean-François Raffin, *L'Archet Revolutionaire 1700-1800* (Paris: 2012), 12.



	int.	la.	ré.	sol.
	1re.	2e.	3e.	4e.
+	si ♭	har	moni	que
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+	fa ♯.			
+	fa .			
+	mi ♯.			
+	mi .			
+	ré ♯.			
+	ré .			
+	ut ♯.			
+	ut .			
–	si ♭.	mi	la	ré
11e.	si ♮.	mi	la	ré
10e.	la .	ré	sol	ut
9e.	sol .	ut	fa	si
8e.	fa .	si	mi	la
7e.	mi .	la.	ré.	sol.
6e.	ré .	sol.	ut.	fa.
5e.	ut.	fa.	si.	mi.
4e.	si.	mi.	la.	ré.
3e.	la.	ré.	sol.	ut.
2e.	sol.	ut.	fa.	si.
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	♯ mi	♯ la ½	♯ ré posi	♯ sol tion
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TOUCHE
représentant touttes les positions du violon prises au 1r. doigt jusqu'au si ♮, passé lequel il n'y a plus de position entiere et l'on doigte selon les chiffres en observant que le dernier Si doit être harmonique.

Les quatre différents Archets sont ceux qui ont été successivement en usage depuis l'origine du Violon.

Le N°. 1. représente celui de Corelli très arqué, court et pointu. il dérive de celui de la Basse de Viole, instrument antérieur au Violon.

Le N°. 2, l'Archet de Tartini successeur de Corelli son maitre. il est plus long et plus elevé de tête.

Le N°. 3 est celui de Cramer de Manheim, il fut adopté dans son tems, par la majorité des Artistes et des Amâteurs.

Le N°. 4 nous vient du célebre Viotti, il diffère peu de celui de Cramer pour la tête, mais la hausse est plus basse et plus raprochée du bouton, il est plus long et porte plus de crin; il se joue un peu détendu et est aujourdhui presque seul en usage.

N°. 1. Archet de Corelli.

N°. 2. Archet de Tartini.

N°. 3. Archet de Cramer.

N°. 4. Archet de Viotti.

Illustration No. 7. Bow Diagram from Michel Woldemar, *Grande Méthode*, 1798. Library of Congress.

Table No. 1 shows a comparison between the Paganini Tourte and authentic examples of two other revolutionary bows, the Cramer bow and the early modern bow. The Paganini Tourte has the modern hatchet-shape tip design. The Viotti bow, as illustrated by Woldemar, also had a hatchet-shaped tip. However, the most common hatchet-tipped violin bow of the Classical Period was the early modern violin bow.[69] The prime characteristic of the Cramer bow was a short extension of the wood of the tip of the bow that goes backwards along the hair creating a battle-axe shape to the tip.[70] Neither the Viotti bow nor the Cramer bow shows a metal ferrule in Woldemar's illustration.[71]

The most common French Cramer bows are very light and these bows were being made long before Wilhelm Cramer's most important London performances surrounding the hundredth anniversary of Georg Frederic Handel's birth, erroneously believed to be 1684.[72] The Woldemar Cramer bow illustration shows an elaborate frog that was popular at the time of King Louis XV (1710-1774), suggesting that he was comparing the Viotti bow to the early rather than late French Cramer bow. The evolution of the lighter and earlier Cramer bows into the later and more robust Cramer bows is shown in Table 2.

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[69] The early modern bow was developed after Viotti fled France in 1792. Gaul, *Strad*, 142. Gaul makes the assumption that the Viotti bow design was only of interest to Michel Woldemar, who felt it would be a great match for his violin/viola hybrid instrument, the *violon-alto,* created in 1787. Ibid., 124-5. The early modern bow shows the hatchet shaped tip of the Viotti bow and also lacks a metal ferrule, but the early modern violin bow has a lighter tip and thus the balance point is much lower in the bow. The late modern bow has a more robust tip and inevitably has a metal ferrule at the frog. Ibid., 152. The late modern violin bow became the most common pattern in the nineteenth century. Some nineteenth century violinists, notably Joseph Joachim, habitually used the early modern violin bow. Retford, *Bows*, 43.

[70] Gabriel Schaff, *The Essential Guide to Bows of the Violin Family* (Dalton, Massachusetts: The Studley Press, Inc. 2009), 11.

[71] Fétis strongly suggests that Viotti inspired the metal ferrule in the early 1780s. Fétis, *Stradivari*, 118. He also suggests that François Tourte, and hence Viotti, would not tolerate, let alone want, a tip-heavy violin bow. Ibid., 116. Both points are refuted by my examples of authentic Viotti bows.

[72] Gaul, *Strad*, 26.

Paganini Tourte (1790)	**French Opera Bow (1787) (Cramer Tip)**	**Early Modern Bow (1795) (Viotti Tip)**
Weight: 53.6 gm Balance point: 31 cm from button	Weight: 49.9 gm Balance point: 24 cm from button	Weight: 54.2 Balance point: 28 cm from button.
Tip Design: Hatchet (Viotti)	Tip Design Battle Axe (Cramer)	Tip Design Hatchet (Viotti)
Tip Height: 17.2 mm	Tip Height: 14.5 mm	Tip Height: 16.0 mm
Frog design Open Trench, No Ferrule	Frog design Open Trench, Metal Ferrule	Frog design Open Trench, No Ferrule
Frog Height: 16.1 mm	Frog Height: 23.2 mm	Frog Height: 14.5 mm
Hair Width: 10.2 mm	Hair Width: 9.1 mm	Hair Width: 7.9 mm
Length: 73.5 cm	Length: 71.5 cm	Length: 73.5 cm
Stick design Cylinder	Stick design Cylinder	Stick design Cylinder-fluted

Table No. 1. The Paganini Tourte vs. Near-contemporary Cramer Tip and Viotti Tip Violin Bows. My own measurements.

Early Cramer Bow (1775)	French Opera Bow (1787)	Late Cramer Bow (1790)
Weight: 47.5 gm	Weight: 49.9 gm	Weight: 47.8 gm
Tip Design: Battle Axe (Cramer)	Tip Design: Battle Axe (Cramer)	Tip Design: Battle Axe (Cramer)
Tip Height: 17.3 mm	Tip Height: 14.5 mm	Tip Height: 18.2 mm
Frog Design: Open Trench, No Ferrule	Frog design Open Trench, Metal Ferrule	Frog design: Open Trench, No Ferrule
Frog Height: 20.8 mm	Frog Height: 23.2 mm	Frog Height: 18.0 mm
Hair Width: 7.3 mm	Hair Width: 9.1 mm	Hair Width: 8.5 mm
Length: 70.0 cm	Length: 71.5 cm	Length: 71.5 cm
Stick Design: Cylinder	Stick Design: Cylinder	Stick Design: Cylinder

Table No. 2. The Evolution of the French Cramer Bow. My own measurements.

The first author to differentiate between the Viotti bow and the modern bow was Pierre Baillot, in 1834.[73] Judging from Baillot, the only difference between the Viotti bow and the modern bow was that the Viotti bow was ever so slightly shorter than the modern bow and did not have a metal ferrule. It is possible that Woldemar considered the early modern violin bow to be a type of Viotti bow rather than a new design.[74] Like the Cramer bow, the French modern bow evolved over time (Table No. 3).

The identity of the Paganini Tourte as a Viotti bow can be verified by the effect of its morphology on how it functions. Woldemar printed a sample of the music that the Viotti bow was designed to play (Illustration No. 8, page 37).[75] The important characteristic of this music is inversion of bowing, that is, that it forces an up-bow on an accented beat. Inversion of bowing feels more natural if a bow is tip-heavy. The violinist can then use the weight of the tip to create a subtle accent to start the up-bow. The Paganini Tourte design creates this accent.

A tip-heavy bow will have a balance point that is relatively more central in the bow and further from the frog than a balanced bow or a frog-heavy bow. As seen in Table No. 1, the balance point of the Cramer bow is close to the frog, the modern bow is farther from the frog, and the Paganini Tourte has a balance point that is closest to the tip of all three bows in the table. Because of its balance point, of all revolutionary bows, the Paganini Tourte is the bow that is best suited for inverted Viotti bowing. A comparison of the Paganini Tourte to two other potential Viotti bows is shown in Table No. 4.

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[73] Pierre Marie François de Sales Baillot, *The Art of the Violin*, Ed. and Trans. Louise Goldberg (Evanston, Illinois: Northwestern University Press, 1991) 452.
[74] Woldemar stated in 1803 that the Viotti bow was the only bow still in use at a time when the early modern bow had been in production for nearly a decade. Woldemar, *Méthode de Violon par L. Mozart* (Paris, 1803), 5.
[75] Woldemar, *Grande Méthode*, 66.

Early Modern Bow (1795) N. L. Tourte (L'Aîné)	**Early Modern Bow (1800) N. L. Toute (L'Aîné)**	**Late Modern Bow (1830) F. X. Tourte (Le Jeune)**
Weight: 54.2 gm	Weight: 56.8 gm	Weight: 58.7 gm
Tip Design: Hatchet (Viotti)	Tip Design: Hatchet (Viotti)	Tip Design: Hatchet (Viotti)
Tip Height: 16.0 mm	Tip Height: 16.0 mm	Tip Height: 17.0 mm
Frog Design: Open Trench, No Ferrule	Frog Design: Open Trench, No Ferrule	Frog Design: Slide and Metal Ferrule
Frog Height: 14.5 mm	Frog Height: 15.8 mm	Frog Height: 16.0 mm
Hair Width: 7.9 mm	Hair Width: 8.1 mm	Hair Width: 11.1 mm
Length: 73.5 cm	Length: 73.5 cm	Length: 73.5 cm
Stick Design: Cylinder-fluted	Stick Design: Cylinder	Stick Design: Cylinder

Table No. 3. The Evolution of the French Modern Violin Bow. My own measurements.

Paganini Tourte	Gaul Viotti Bow	Kossovich Viotti Bow
Weight: 53.6 gm Balance point: 31 cm from button	Weight: 60.3 gm Balance point: 29 cm from button	Weight: 59.1 gm Balance point: 29 cm from button
Tip Design: Hatchet (Viotti)	Tip Design: Hatchet (Viotti)	Tip Design: Hatchet (Viotti)
Tip Height: 17.2 mm	Tip Height: 15.0 mm	Tip Height: 15.6 mm
Frog Design: Open Trench, No Ferrule	Frog Design: Open Trench, No Ferrule	Frog Design: Open Trench, No Ferrule
Frog Height: 16.1 mm	Frog Height: 16.9 mm	Frog Height: 17.4 mm
Hair Width: 10.2 mm	Hair Width: 8.4 mm	Hair Width: 8.4 mm
Length: 73.5 cm	Length: 73.0 cm	Length: 73.5 cm
Stick Design: Cylinder	Stick Design: Cylinder	Stick Design: Cylinder

Table No. 4. Examples of the Viotti Violin Bow. My own measurements.

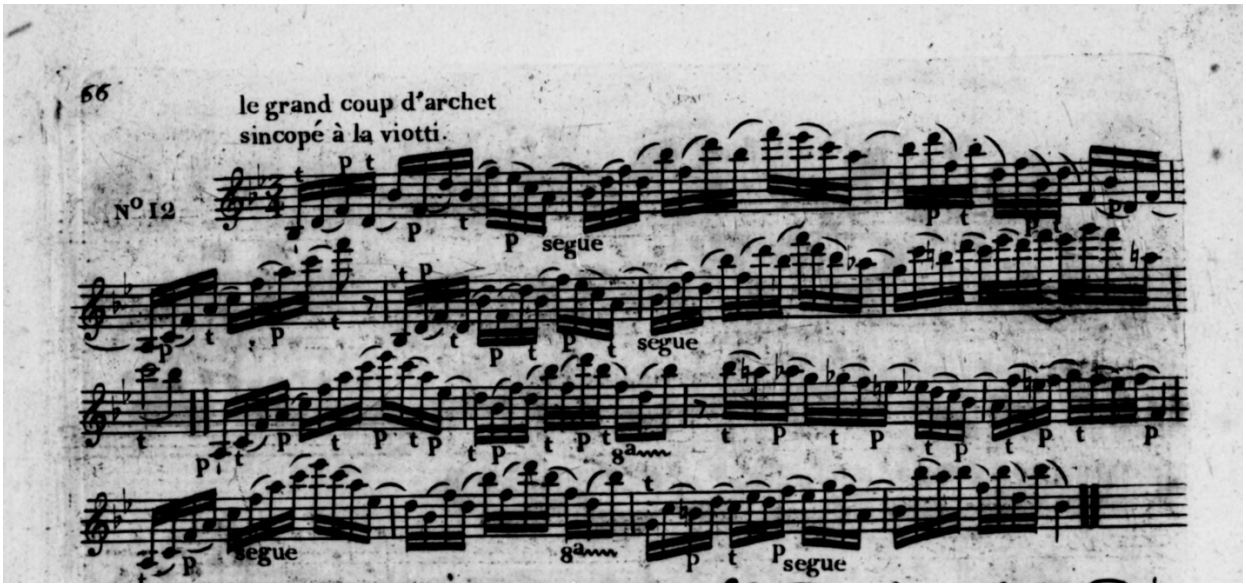

Illustration No. 8. Inverted Bowing Example from Michel Woldermar, Grande Méthode. P=up-bow, t=down-bow.

Before the discovery of the Paganini Tourte, there was no physical object that was felt to represent the Viotti bow.[76] In his later years, Giovanni Battista Viotti functioned as broker for his amateur violinist friends to acquire Tourte bows directly from François Tourte, but at the time of the creation of the Viotti bow, there was no clear relationship between Viotti and François Tourte, who is the presumed creator of both the modern violin bow and the Viotti bow.[77] Viotti was only active as a concert artist in Paris in 1782-3 and there is no evidence that Viotti ever routinely used a bow that matches the 1798 Woldemar illustration.[78] During this period, he likely used

[76] Paul Childs et al, *Tourte* (Montrose, New York: Magic Bow Publications, 2023) 74-5.
[77] Ibid. Based on an analysis of the chamfers on the back of the tip each bow (Retford, *Bows*, 44), the Paganini Tourte was made by Nicolas Léonard Tourte, as was the Kossovich Tourte. The Gaul Tourte was made by François Xavier Tourte. Retford felt that Nicolas Léonard developed the modern violin bow, not François. Retford, *Bows*, 43.
[78] Childs, Tourte, 74.

either a baroque violin bow or the Italian transitional violin bow.[79] In 1792, Viotti fled Revolutionary France and settled in England. Viotti iconography suggests that Viotti continued to use the baroque long bow until well into the nineteenth century.[80]

Many surviving revolutionary bows do not match the simplistic Woldemar classification scheme. There was a Tartini violin bow variant known as the Mestrino bow. Woldemar added an illustration of the Mestrino bow between the Cramer and Viotti bows in a violin treatise in 1803.[81] He noted that the Mestrino bow is a little longer than the Cramer bow. The Mestrino bow had a sloping tip, like the modern cello bow. The Mestrino violin bow design almost became the accepted early modern bow design, since Nicolas Léonard Tourte made a few fluted Mestrino bows at the time he created the fluted early modern bow shown in Table No. 1.[82]

The revolutionary viola bow was made with the hatchet tip before any violin bow followed this pattern.[83] Both the Mestrino bow and the revolutionary viola bow have equal articulations in the up-bow and down-bow. The dramatic difference between the two bows is that the articulations of the viola bow are very sharp because of its high, heavy frog and high, heavy tip. The Mestrino bow has a lower tip and frog and, like the Tartini bow, was probably designed to be used only in the middle part of the bow.[84] A comparison between the Paganini Tourte, the Mestrino bow and the revolutionary viola bow is presented in Table No. 5.

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[79] Ibid.
[80] Robert E. Seletsky, "New Light on the Old Bow: 2." *Early Music,* Vol 32, No. 3 (August 2004), 421.
[81] Woldemar, *Méthode de Violon*, 5.
[82] Retford, *Bows*, 15 and Plate VI. Nicola Mestrino died in 1789. The loss of Mestrino as mentor of the French School almost certainly influenced Tourte's decision to create a new design that imitated the Viotti bow tip rather than the Mestrino bow tip.
[83] Gaul, *Strad*, 125.
[84] Seletsky, "Light," 2 418.

Paganini Tourte (1790)	Mestrino Bow (1785)	Tourte Viola Bow (1785)
Weight: 53.6 gm	Weight: 52.5 gm	Weight: 60.9 gm
Tip Design: Hatchet (Viotti)	Tip Design Swan (Cello)	Tip Design Hatchet (Viotti)
Tip Height: 17.1 mm	Tip Height: 17.6 mm	Tip Height: 19.2 mm
Frog design Open Trench, No Ferrule	Frog design Open Trench, No Ferrule	Frog design Metal Ferrule and Slide
Frog Height: 16.1 mm	Frog Height: 18.4 mm	Frog Height: 17.4 mm
Hair Width: 10.2 mm	Hair Width: 8.2 mm	Hair Width: 10.1 mm
Length: 73.5 cm	Length: 74.5 cm	Length: 73.0 cm
Stick design Cylinder	Stick design Cylinder	Stick design Cylinder

Table No. 5. The Paganini Tourte vs. the Mestrino Violin Bow and the Revolutionary Viola Bow. My own measurements.

The Viotti bow design was also influenced by the Italian transitional violin bow. Both Viotti and Paganini used this type of violin bow during part of their active career and both Paganini and Viotti held their violin bows with the old Italian transitional grip (as seen in Illustrations No. 4 and No. 5).[85] With this grip, the effective mass of the tip of the bow is less and a tip-heavy bow like the Viotti bow feels balanced.

A reasonable summary of the development of revolutionary violin bow designs in France shows that the early Cramer violin bow slowly became heavier from 1770-90. Elements of the late Cramer bow, the Mestrino bow, the Italian transitional bow, and the revolutionary viola bow led to the tip-heavy Viotti bow design. The Viotti bow design very quickly gave way to the more balanced early modern bow design. The modern violin bow design then showed a steady evolution towards a heavier tip, a wider band of horsehair, and the metal ferrule.

Unlike the Paganini Tourte, the overwhelming number of surviving revolutionary bows are light and have narrow, low tips.[86] Gaul's assumption about these bows is that their lightness was an accommodation to the very delicate, very expensive, Neapolitan three-ply violin E string.[87] Violinists who were willing to suffer through a concert with a broken E string or had a good supply of replacement strings could afford to use a heavier bow. Some violinists, including Paganini, worked around this problem by using the more robust four-ply violin E string.[88] François Tourte suggested that light violin bows were an attempt to make bows more affordable by using scraps of the rare tropical hardwoods rather than logs.[89] A third reason for the

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[85] Stowell, "Transition," 318.
[86] This was obvious to bow historians starting in the nineteenth century. Fétis, *Stradivari*, 113.
[87] Gaul, *Strad*, 116.
[88] Neill, *Candi*, xi.
[89] Fétis, *Stradivari*, 114.

coexistence of light and heavy transitional violin bows was confirmed by an analysis of transitional cello bows.

There is reason to believe that light and heavy transitional bows were intended for different categories of string musicians. Woldemar noted that the light Cramer bow was well suited to amateur players[90] and that the heavier Viotti bow was well suited to inverted bowing,[91] a characteristic of the more sophisticated violin music played by professional violinists. In 2023, Itzel Sierra set out to see if there was also a clear distinction between heavy and light transitional bows in a collection of French and English cello bows.[92] Cello strings are tuned much lower than violin strings. This means that they require both a larger mass of catgut and are also under less tension. Because there is no need for a lighter bow to accommodate a delicate string, we might expect that transitional cello bows would not fall into light and heavy subtypes. And yet, they do.[93] This is true for both French and English transitional cello bows.

A bow with a high frog relative to the tip will accent the down-bow. The light transitional cello bow has this arrangement and the heavy transitional cello bow does not. Thus, the light transitional cello bow appeared to be designed to have accented down-bows, a feature that was always thought to be a property of the baroque short bow, not a property of any transitional bow.[94] Reviewing the cello performance treatise of Michel Corrette,[95] written at the dawn of the

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[90] Woldemar, *Grande Méthode*, 3.
[91] Woldemar, *Méthode de Violon*, 5.
[92] Itzel Fabiola Orellana Sierra, "The Cello Bow in Transition: Structural Characteristics from 1750 to 1870," Independent Study, University of North Dakota, 2023.
[93] Ibid., 40.
[94] David D. Boyden, *The History of Violin Playing from its Origins to 1761,* (Oxford: Oxford University Press, 1990), 312.
[95] Michel Corrette, *Méthode, Théorique et Practique pour Apprendre en Peu de Temps Le Violoncelle dans sa Perfection* (Paris: Mlle. Castagnery, 1741).

Classical Period, Sierra found that much of the treatise was devoted to discussing the rule of the down-bow, a rule of violin bowing that was a specific technique adapted to playing with a bow that accents primarily the down-bow.[96] Corrette suggests that this rule was necessary to guide less talented players.[97]

In light of Sierra's research, we can return to Table 1 on page 32. The French Cramer bow has a light tip and a high frog with a metal ferrule. We would expect this bow to have a naturally strong accent on the down-bow. The Paganini Tourte is not only heavy, it also has a strong tip. We would expect this bow to be capable of a strongly accented up-bow. Finally, the early modern bow has bow both a modest tip and a low frog. This bow appears to have been designed to have equally strong accents on the up-bow and the down-bow. These three bows would have each required dramatically different bowing technique and they were created with three distinct types of violin players in mind.[98]

This analysis of the form of the Paganini Tourte neglects its most interesting functions as a bow. Long bows were only rarely used to bounce off the string.[99] Early Cramer bows could create a delicate spiccato stroke even at the tip of the bow.[100] Modern bows most effectively produce the spiccato stroke at the balance point, which is in the lower half of the bow. In contrast, the Paganini Tourte, with its high heavy tip, has a dramatic spiccato stroke in the center of the bow. Given Paganini's bow hold as show in Illustration No. 4, the most dramatic bounced

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[96] Sierra, "Cello," 36-7.
[97] Corette, *Méthode*, page C.
[98] Following Sierra's assumptions, the light bow was for a violinist with modest training and the heavy bow was for a more clearly professional player. Sierra, "Cello," 40. The early modern bow was created at the time of the opening of the Paris Conservatory in 1796. This bow was an attempt to satisfy the needs of both the students and the teachers. Gaul, *Strad*, 145.
[99] Stowell, "Transition," 323.
[100] Ibid., 322

stroke would occur even closer to the tip. This made possible one of the most effective of Paganini's techniques: the "thrown bow." This is the stroke that most appeared to be "bodice-ripping."[101] The "bodice-ripping" stroke was not the invention of Paganini, but rather a variety of bow strokes promoted by Michel Woldemar in the 1790s (Illustration No. 9).[102]

Viotti bows like the Paganini Tourte were not just a variant of revolutionary violin bow design. They were intended for use by only the best violinists whose technique could support the wonderous effects they could produce. The lack of significant ornamentation on the Viotti bows that survive suggest that they were not intended to be sold to wealthy amateurs.

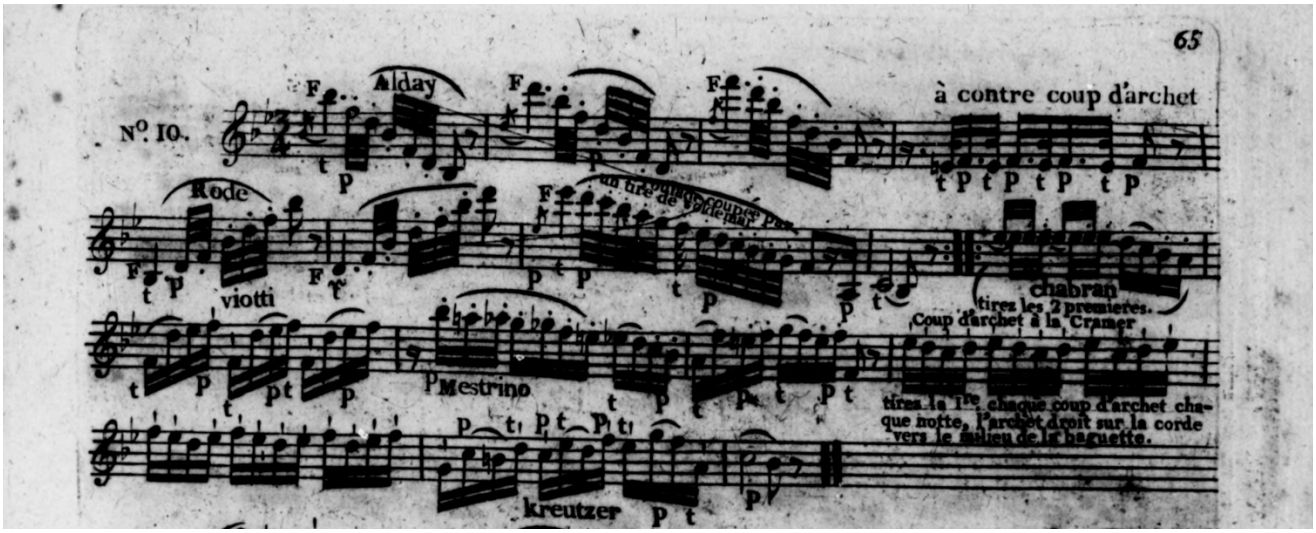

Illustration No. 9. Varieties of "Thrown" Bow Strokes from Michel Woldemar, *Grande Méthode.* Note the dotted rhythm at the end of the first line, where t=down-bow, p=up-bow.

[101] Kawabata, *Demonic*, 64.

[102] Woldemar associated this bowing from high to low with Paul Alday and from low to high with Pierre Rode. The Mestrino bowing shown in the illustration would have sounded differently, because the Mestrino bow created up-bow or down-bow staccato by starting and stopping the bow while it remained on the string. Woldemar, *Grande Méthode*, 65. Violinists like Mestrino, who emulated the Tartini style with Tartini variant transitional bows, avoided all manner of vertical, as opposed to horizontal, bowing techniques. Tartini taught that the bad vibrations created by vertical movements of the bow canceled out the good vibrations created by the horizontal movement of the bow. Lev Ginsburg, *Tartini: His Life and Times*, ed. Herbert Axelrod, trans. I. Leven (Neptune City New Jersey: Paganiniana Publications, Inc., 1981), 133

Viotti bows were intended for a very specific class of violinists: the principal players of French opera orchestras. Lighter revolutionary bows were intended for use by the violinists who made up the *ripieno* (Italian for "stuffing") of French opera orchestras. Most of the mid-to-late eighteenth-century violin, viola, and cello treatises were intended for the instruction of the *Ripienisten,* the semi-trained string musicians who made up the bulk of the classical orchestra.[103] These treatises, especially the most important violin treatise of the early classical period, Leopold Mozart's of 1755, devote a lot attention to the rule of the down-bow.[104] Given the large number of light Cramer bows that survive, it is likely that the light revolutionary bow was created for this group of violinists. The morphology of the Cramer bow of the 1780s, with its high frog and relatively low tip, supported the careful application of the rule of the down-bow as taught by Leopold Mozart and put into practice by the *Ripienisten*.

Virtuoso violinists needed training that went beyond the eighteenth-century violin treatise. Starting at the mid-eighteenth century, a person aspiring to be a great violinist would seek out a mentor.[105] The system that involved the most sought-after mentors in France became known as "the French School." Mentorship was not entirely about access to instruction. It also included access to violin strings[106] and Tourte violin bows.[107] This system of mentorship for violinists was severely disrupted in 1795 and re-established at the Paris Conservatory in 1796.[108]

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[103] Robin Stowell, "'Good Execution and Other Necessary Skills:' The Role of the Concertmaster in the Late 18th Century," *Early Music,* Vol. 16, No. 1 (February 1988), 22.
[104] Leopold Mozart, Editha Knocker, trans. *A Treatise on the Fundamental Principles of Violin Playing* (Oxford: Oxford University Press, 1948), 73-88.
[105] From the 1780s-1820s, the most sought-after mentor was Viotti. This was true even after he left France in 1792. Warwick Lister, *Amico: The Life of Giovanni Battista Viotti* (Oxford: Oxford University Press, 2009), 164-169.
[106] Gaul, *Strad*, 117.
[107] Even at the end of his life, Viotti was asked to procure Tourte bows for a young violinist by the Duke of Cambridge. Lister, *Amico* 350.
[108] Some writers claim that the French School was only active from 1751-1795. Antoine Vidal, *Les Instruments à Archet Tome Deuxième* (Paris: J. Claye, 1877), 160.

Gaul has shown that Paris Conservatory taught the use of the early modern bow, not the Viotti bow.[109] The Viotti bow must have been mostly out of use by 1795.

The modern bow does not require careful observance of the rule of the down-bow. But up until 1795, most of the bows in common production in France almost certainly did.[110] How did the orchestras in France accommodate two types of violinists, principal players and *Ripienisten*, and their two distinct bowing styles? Overwhelmingly, orchestras in France from 1785-1795 were opera orchestras. In those orchestras, only the mentor class, using long or heavy bows, were on stage and facing the audience, while the *ripieno* was in the orchestra pit or on the floor in front of the stage and facing the stage.[111]

In the case of Viotti's opera orchestra at the Théâtre de Monsieur, we know the actual players who filled each role.[112] Pierre-Nicolas La Houssaye, alternating with Giuseppe Puppo, played concertmaster. The last chair of the first violins was Pierre Rode. Rode was Viotti's most favored pupil, and his location at the back of the section makes little sense, unless one realizes that Rode would have sat at the front of the group of violinists facing the stage. He is listed last because he is the farthest violinist from the audience within the *ripieno*. Viotti had performed a similar role for his teacher, Pugnani, in the Turin opera orchestra.[113] With this arrangement of the orchestra, the principal players could easily follow their own set of bowings while the less visible part of the section carefully applied the rule of the down-bow. The principal players, often out of

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[109] Gaul, *Strad*, 145-6.
[110] The light violin bows that required attention to the rule of the downbow were the most affordable. Fetis, *Stradivari*,114.
[111] Stowell, "Concertmaster," 22
[112] *Almanach Général de Tous les Spectacles de Paris et des Provinces pour l'Année 1791* (Paris: Chez Froullé, 1791) 54-6.
[113] Lister, *Amico*, 20.

sight of their sections, could only guide the section with the force of their sound. For the violinists, this forceful playing would put pressure on the delicate E string. These violinists needed two things that the violinists in the pit did not necessarily have. First, a heavy revolutionary bow like the Viotti bow. Second, a supply of the expensive replacement violin E strings.[114] The effect of this arrangement may have been that a principal player on stage produced the biggest part of the section's sound, especially in the higher register. A single violinist, using a heavy revolutionary bow, acted like a soloist even when playing a tutti passage with their section. To further emphasize the important role of the violinist using the Viotti bow, a virtuoso violin concerto was often played after the end of the opera.[115]

[114] La Houssaye still had a supply of pre-Revolutionary E strings that he sold to fund his wine drinking during his retirement. Gaul, *Strad*, 172.
[115] Maiko Kawabata, "Virtuoso Codes of Performance: Power, Military Heroism, and Gender (1789-1830)," *19th-Century Music* Vol. 28, No. 2 (Fall 2004), 98-99.

THE CANNON OPERAS OF 1794

The Viotti violin bow had already been created when the nature of French opera changed dramatically. According to Jonathan Israel, during the French Revolution theaters were expected to be populist and supportive of the Revolutionary government. Free tickets were distributed to workers, the elderly, and the infirm, with the predictable consequence that theaters ran at a loss. The losses were made up by subsidies from the government, adding a layer of government control to the political discourse in the theaters. Strict censorship became the norm as 1793 went on. In September of 1793 the entire theater troupe of the Comédie-Française was arrested for having followed a script with lines about persecution that were thought to be veiled criticisms of the Revolutionary government. Not only content was carefully policed. The behavior of individual actors or audience members could lead to arrest.[116] The safe harbor for opera composers was peppering their scores with musical quotes from popular Revolutionary songs such as "La Marseillaise" or "Ça Ira."[117]

Starting in June of 1793, women lost all political rights including the right to participate in political debates.[118] As M. Elizabeth C. Bartlet has shown, the only accepted political values allowed to women were rejoicing in France's victories while stoically enduring France's trials and tribulations.[119] French opera became coded as male and suffused with violence. Revolutionary opera was filled to overflowing with military marches and sometimes almost

[116] Jonathan Israel, *An Intellectual History of the French Revolution from the Rights of Man to Robespierre* (Princeton: Princeton University Press 2015), 518-9.
[117] M. Elizabeth C. Bartlet, "The New Repertory at the Opera during the Reign of Terror," in *Music and the French Revolution*, ed. Malcolm Boyd (Cambridge: Cambridge University Press, 1992), 132.
[118] Ibid., 114
[119] Ibid., 115.

entirely lacking in female characters.[120] The critical violin component of the French military march of the 1790s was a new bowing technique that facilitated tight dotted rhythms.[121] This new bowing method was an inverted bowing style called *contre coup d'archet* that Woldemar ascribed to the Viotti bow.[122]

The French National Assembly itself became a form of opera. Once Maximillian Robespierre came to power, his autocratic government ruled through the Committee for Public Safety. The toothless National Assembly met in the old *Salle de Machines* in the Tuileries, a space that had most recently been used for Viotti's Théâtre de Monsieur. At least some of the debates in the Assembly were sung.[123]

The attempt to concentrate power at the level of the Committee for Public Safety left four problematic holes where political power could drain out of the government and into popular culture. The first was that the production of armaments depended on public support. Although the foundries were industrial enterprises, the material for creating cannon were church bells, requiring involvement of the French public for removal and transport.[124] A second problem was the tendency of opera composers to edit their works based on the whims of the public.[125] A third problem was the relative independence of the mentors of the French School, who could always

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[120] Ibid., 133-135.
[121] Kawabata, "Military Codes," 102-3. Kawabata assumes this was the hooked bowing promoted by Baillot in 1834, but it was almost certainly the inverted bowing of the dotted rhythm shown in my Illustration No. 9, which is from 1798.
[122] Woldemar, *Grande Méthode*, 65.
[123] Most notoriously, the petitions of Roget de L'Isle. Having written the most famous of all Revolutionary songs did not spare him from being imprisoned for the entire period of the Terror. Mary Cliquet, *Roget de L'Ilse: Biographie Complète et inédite de l'Auteur de la Marseillaise* (Paris: G. Richard, 1880), 23.
[124] Simon Schama, *Citizens: A Chronicle of the French Revolution* (New York: Alfred A Knoff, Inc, 1989), 765.
[125] Chela M. Aufderheide, "Theater and the Truth: Political and Theatrical Representations of the 1793 Siege of Toulon" *James Blair Historical Review* 9 (2019), 6.

deny their influence on the public by insisting that they were just innocently playing the violin.[126] Finally, the fourth problem was that as much as an opera libretto might portray a France without any center of concentrated political power other than the central government, the power of an opera orchestra could be clearly represented as being centered on the concertmaster violinist leading a group of elite musicians on the opera stage. All four problems came to a head in the theatrical representations of a great French victory, the recapture of Toulon from the British in December 1793 and in the tricky associations with the Revolutionary song, "La Carmagnole," a song that celebrates the public's participation in making and using artillery. Because the populace was fully involved in the production of cannon, cannon were considered the weapons of the masses and cannon represented the powers reserved to the Revolutionary mob. These powers did not depend on the use of artillery, only the threat of violence that the noise of cannon represented. The chorus to "La Carmagole" includes the line, "Dance the Carmagnole at the noise of the sound of cannon."[127]

"La Carmagnole" was not a march, it was a *gigue.* This dance was associated with the charivari, a type of rustic protest that was used in villages, most commonly in objection to inappropriate marriages.[128] The French Revolutionary mob was little more than the charivari writ large. The charivari music was accompanied by all sorts of noise makers. In this context, the

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[126] Gaul, *Strad*, 138.
[127] Fabre-Olivet, *Toulon Soumis Fait Historique*, (Paris: P.de Lormel, 1794), 33. My translation of "*Danser la Carmagnole, au bruit du son du cannon*." The libretto can be found at https://books.google.com/books?id=hlZoAAAAcAAJ&printsec=frontcover&source=gbs_ge_summary_r&cad=0#v=onepage&q&f=false
[128] Martin Geck, "Charivari." in *Die Musik in Geschicte und Gegenwart*, ed. Friedrich Blume 2 (Kassel: Bärenreiter, 1995), 642-3.

meaning of cannon was not related to whatever damage the cannonball might produce, it was related to the dramatic "musical" effect of the exploding gunpowder.

It was only a matter of time before this musical effect of cannon in battle was used in opera. The first of the cannon operas was *Le Siège de Thionville,* composed by Louis-Emmanuel Jadin, which premiered on June 14, 1793. When the Opéra first requested gunpowder for the production in April of 1793, the request was refused and the initial performances may not have had any cannon effects.[129]

The months following this opera saw the most aggressive seizures of church property. Although the logic may have been to access material for cannon in the form of church bells, these decentralized populist actions devolved into a generalized looting of church property. By November 1793, the French populist anti-Christian movement was celebrated in the theaters of Paris through works like *L'esprit des prêtres* and *Le tombeau des impostures*. By December 1793, the Revolutionary government was determined to suppress the most fanatic elements of the de-Christianizing campaign, in part by encouraging theater that focused on soldiers and the government authorities that managed the military rather than the mob of zealot scroungers that took credit for producing military hardware.[130]

The subject matter of the cannon operas of 1794 was supplied by the recapture of Toulon, when Napoleon Bonaparte fired heated cannonballs onto the British ships in Toulon harbor, setting them on fire. It was celebrated in Paris by news bulletins in late 1793 and plays and

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[129] Mark Darlow, *Staging the French Revolution: Cultural Politics and the Paris Opéra, 1789-1794* (Oxford: Oxford University Press, 2012), 338-9.
[130] Serge Bianchi, "Le théatre de l'an II (culture et société sous la Révolution)," *Annales historic de la Révolution française* (1989), 430

operas in early 1794. One of the early operas about the military victory at Toulon may have given something like a true report, *La Reprise du Toulon*.[131] *La Reprise du Toulon* was composed by Jean-Frédéric-Auguste Lemière de Corvey, who had a commission in the Revolutionary Army and may have been present at Toulon. According to Serge Bianchi, this production had the full support of the Revolutionary government.[132] Only the overture of this work survives, and the musical components may have been little more than incidental music to a play. Most likely, the play was an outline of the real events heavily padded with Revolutionary songs.[133] Not to be outdone, the Opéra produced its own version of the events at Toulon, *Toulon Soumis*.[134]

This version of the Toulon story was largely funded by the Revolutionary government.[135] Self-censorship guided the libretto at every turn. Any mention of Napoleon or his commander are absent from the story, as is any indication that cannon had been used effectively to sink the British ships. In *Toulon Soumis,* a French convict accidentally sets fire to both the French and the British ships in the harbor.[136] This was in keeping with the central dramatic trope of military operas of the period, that every victory must be a result of common people acting out of a sense of entirely undisciplined patriotic intent. According to Herbert Josephs, undisciplined patriotic intent extended to the opera audiences as well. From 1790 onward, the universal acceptance of the necessity of "sovereign people" expressing "public opinion" led to violent outbursts in the

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[131] The music can be found at: https://imslp.org/wiki/Ouverture_de_la_Reprise_de_Toulon_(Lemi%C3%A8re_de_Corvey%2C_Jean-Fr%C3%A9d%C3%A9ric-Auguste)
[132] Bianchi, "L'an II," 430.
[133] Based on other plays, the most likely were "La Carmagnole," "Ça Ira," and "La Marseillaise." Darlow, *Staging*, 344.
[134] Jean-Baptiste Rochefort wrote the music. The score can be found at: https://gallica.bnf.fr/ark:/12148/btv1b105111489
[135] Bartlet, "Repertoire,"109.
[136] Fabre-Olivet, *Soumis* 21.

audience that could invade the stage. In the course of these theater riots, musicians or singers were sometimes forced to read inflammatory pamphlets.[137] The war scenes in *Toulon Soumis* seem to have been calculated to keep the audience stunned and away from the stage during the most exciting part of the performance. In the score of *Toulon Soumis*, the cannon shots occur mostly at random throughout the climatic Fifth Scene. This amounts to a lot of cannon shots, over one hundred. Real cannon, minus the cannonballs, were used.[138]

Adele, the heroine of the story, in keeping with the absolute prohibition against political speech by women, is an entirely passive witness to the battle. To the extent that she moves the plot forward, it is because she is pursued by the English general.[139] The slim symbolic element of the plot presents the potential inappropriate liaison between Adele and the English general as a metaphor for the inappropriate merger between France and England in the form of the English seizure of French territory. The response presented in *Toulon Soumis* was not so much a military action as it was a huge charivari that forced the British to remove themselves from a "marriage" they could not afford to consummate. The only indication that Toulon would be back under the control of the Revolutionary Government was the renaming of the harbor.[140]

The resolution of this inappropriate marriage leads to the final ensemble chorus of the work, sung entirely to the music of "La Carmagnole." The scoring here is very light, only strings (Illustration No. 10). Note that the tune is scored low enough that violin E strings are

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[137] Herbert Josephs, "Opera during the Revolution: Lyric Drama in a Political Theater," *The French Review* Vol. 62 No.6 (May 1989), 979.
[138] Darlow, *Staging*, 338-9.
[139] Fabre-Olivet, *Soumis*, 17.
[140] To "Le Port de la Montagne." Fabre-Olivet, *Soumis*, 26. The "mountain" here refers to seating of the Jacobins in the National Assembly.

unnecessary. Only the first violins are playing the tune, and the effect in staging is that only the concertmaster is leading the charivari. The tacit of most of the orchestra and especially the cannon might give the impression that the string players did not have to play loudly, but we can imagine that the audience brought their own noisemakers to the theater and would have naturally used them during this charivari tune.

Adele leads the final chorus of "La Carmagnole." The expected cannon reference is lost when Adele sings this instead:

> The chorus of this song appears to have lost its way,
> It is necessary to have a different tone, to play the violin.
> But can the French celebrate their successes
> Without the Carmagnole and still unite at the sound of the cannon?[141]

On the one hand, Adele is suggesting that in face of a strictly enforced government monopoly on the use of weapons, all a person can do is waste time by playing a fiddle. On the other hand, as we have seen, violinists were often powerful political actors during the French Revolutionary Terror. In this context, a violin and violin bow really are as effective as cannon. Finally, the virtuoso violin techniques promoted by Viotti and the Viotti bow, like the theatrical cannon, were calculated to keep the audience stunned and off the stage. Adele offers an alternative to the cannon and the violin: the end of the sound of cannon as the organizer of mass protests. During the twenty-one years of Napoleonic conquests and defeats that followed *Toulon Soumis*, the French did learn to only respond to the sound of cannon as part of a military action and not as part of a charivari tune like "La Carmagnole."

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[141] Fabre-Olivet, *Soumis*, 34. My translation of: "*Le refrain de cette chanson peut paroître un peu sans façon; il falloit, sur un autre ton, faire jouer le violon. Mais peut-on des Français célébrer les succès sans que la Carmagnole, s'unisse au son du canon?*"

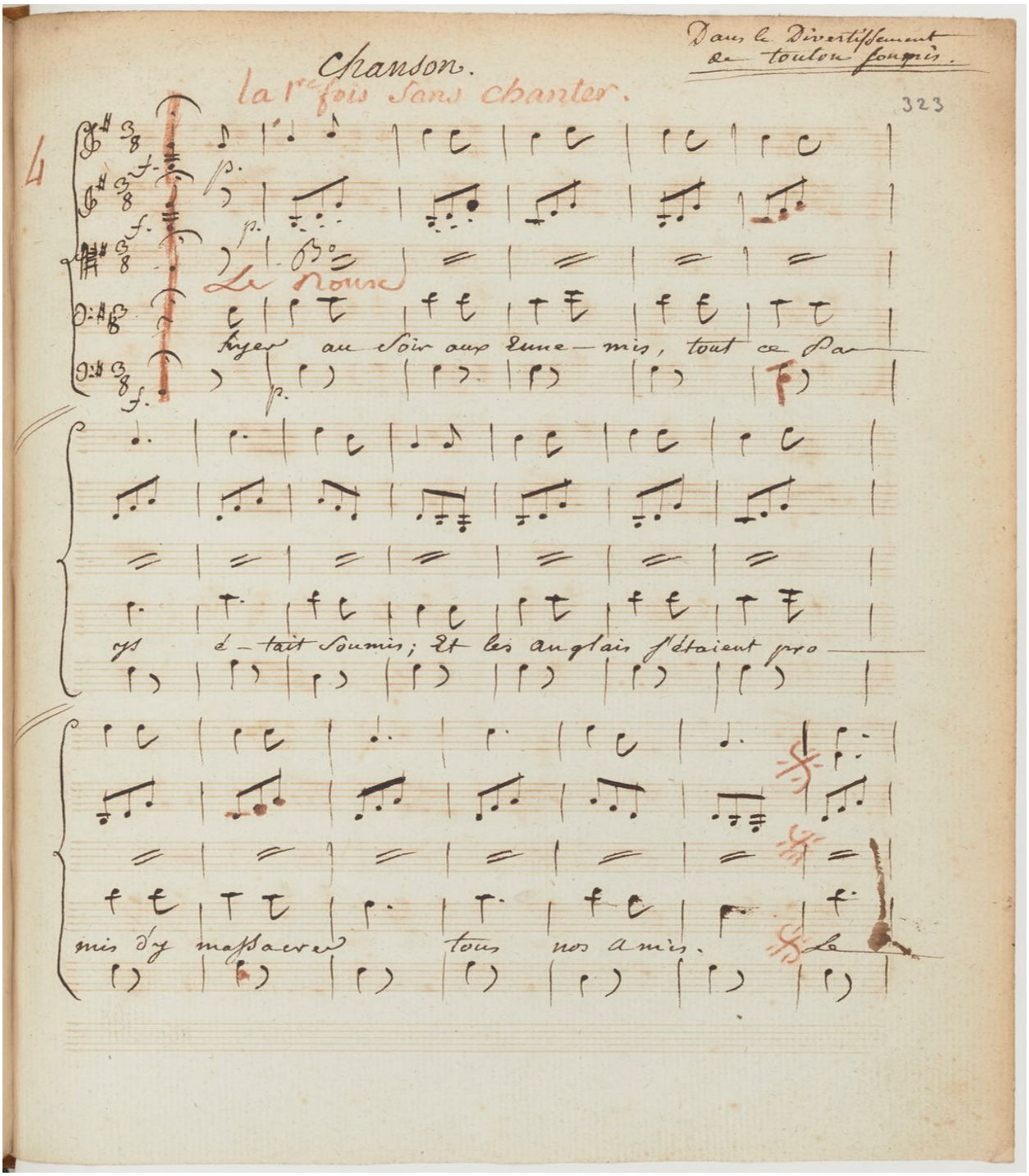

Illustration No. 10. The Opening of "La Carmagnole" from *Toulon Soumis*. Bibliothèque Nationale de France.

Toulon Soumis may not have been paired with a virtuoso violin concerto. We have to bear in mind that during the French Terror, unwise political speech would have put both the performers and the audience at risk. Unscripted or carelessly scripted events at the theater was simply asking for trouble. This explains why the published libretto of *Toulon Soumis* makes it clear that the opera company is only trafficking in banalities and that the female lead is limiting her role in the performance to cowering in fear and refusing the advances of the English general. As an additional precaution, *Toulon Soumis* ends with a clever method of crowd control. The final instruction of the libretto is an announcement that the entire theater will dance the Farandole.[142] The Farandole is a simple chain dance that utilizes music very similar to the *gigue.* By providing the leaders of the chains, the opera company had the option of leading the audience right out of the theater.

In contrast to the happy G major tonality of the Carmagnole, the Farandole in the score of *Toulon Soumis* is a mournful tune in G minor (Illustration No. 11). *Toulon Soumis* premiered on March 4, 1794. The very next day was Ash Wednesday. Although the newly created official Revolutionary Calendar did not contain any reference to March or Wednesday, let alone Lent, we can imagine that most of the audience knew that attending the opera during Lent was already a transgressive act. Hearing mournful music, the audience may have had a measure of latent Catholic guilt to motivate them out of the theater.

[142] Fabre-Olivet, *Soumis*, 35. The final statement of the libretto starts with: "We will all take each other by the hand and dance the Farandole." My translation of "*On danse la Farandole, en se prennant tous par la main.*"

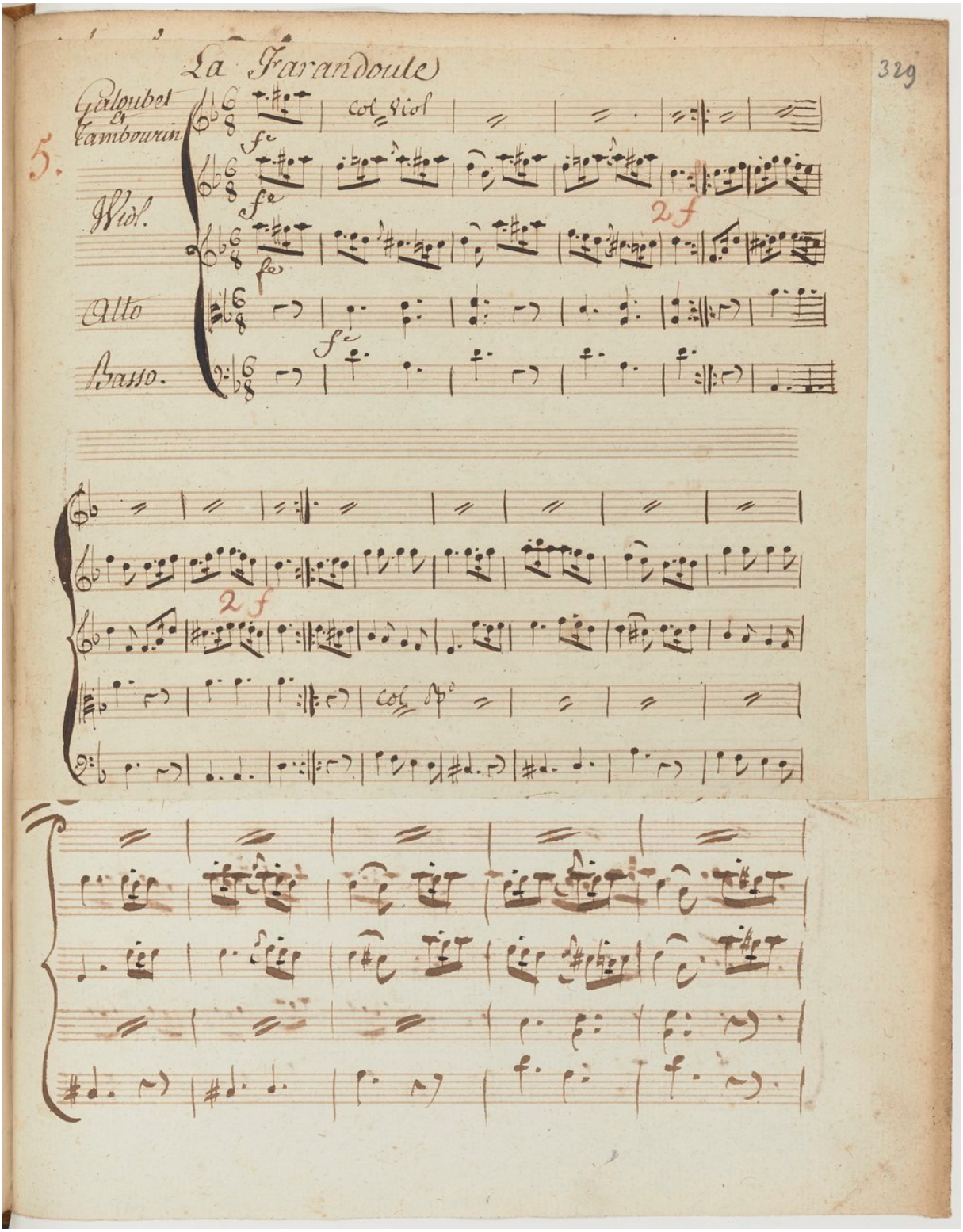

Illustration No. 11. The Farandole from Toulon Soumis. Bibliothèque Nationale de France.

PAGANINI'S SEARCH FOR THE PAGANINI TOURTE

Independently of knowing about the association between Viotti bows and the cannon operas of 1794, if Paganini was seeking a bow that would be a weapon capable of stunning an audience, he had good reason to want a Tourte. In March of 1816, he had played an exhibition concert in Milan with Rodolphe Kreutzer's pupil, Charles-Philippe Lafont. Paganini noted to a biographer that at that concert Lafont had the more powerful sound. Later the combined concert was seen as a "duel," and it was reported that Paganini had "won."[143] Lafont then reported his own success at the concert and had this to say:

> On all occasions I have taken pleasure in rendering homage to his [Paganini's] great talent; but I have never said that he was the first violinist in the world. I have not done such injustice to the celebrated men, Kreutzer, Rode, Baillot and Habeneck. And I declare now as I have always done that the French School is the first in the world for the violin.[144]

As Paganini was certainly aware, to be a member of the French School, one had to have the preferred violin-dueling weapon of the French School, a Tourte violin bow. Ludwig Spohr had one.[145] When he met with Paganini later in 1816, he wrote that Paganini lacked the very things a good Tourte bow could provide: "a full tone, a long bow stroke, and a tasteful cantabile style." As far as Spohr was concerned, the tricks that Paganini performed as he played made Paganini appear to be nothing more than a charlatan. Spohr listed those tricks. They include playing without the upper strings and left hand pizzicato.[146]

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[143] Cide de Courcy, *Paganini*, I 148-9.
[144] Ibid, I 150.
[145] Spohr's teacher, Franz Eck, insisted that Spohr get one. Fortunately, he was able to buy one in Hamburg in 1803. Clive Brown, *Classical and Romantic Performing Practice, 1750-1900* (Oxford: Oxford University Press, 1999), 261.
[146] Cide de Courcy, *Paganini*, I 158.

The acquisition of the 1743 Il Cannone Guarneri violin and the Paganini Tourte were linked. The Il Cannone violin has been alleged to have been acquired by Paganini at the beginning of the nineteenth century as a gift from an admirer, variously a Frenchman named Livron, an Italian painter named Pasini, or an Italian soldier named Pino.[147] If Paganini owned the instrument as a young performer, there is no evidence that he used it. Up until at least 1825, Paganini's preferred concert instrument was his 1724 Stradivari violin.[148] The Stradivari violin, along with most of the rest of Paganini's instrument collection, was left in Italy when Paganini started his tour of Northern Europe in 1828.[149] In 1828, we know he was using his Il Cannone violin.[150] Paganini probably acquired the Guarneri violin sometime within the three years between 1825 and 1828. The timing of the bow purchase can be determined from iconology. In the 1820 portrait (Illustration No. 5), Paganini is using a bow with a battle-ax head. This bow cannot be the Paganini Tourte. In the 1831 portrait (Illustration No. 4) he is using a bow with a hatchet-shaped head: this is the Paganini Tourte. Most likely, Paganini purchased both violin and bow in 1826 or 1827, just as he was preparing for his successful tours of the German States, Poland, France, and the British Isles.[151] According to Jean-Baptiste Vuillaume, Il Cannone was named by Luigi Tarisio, Vuillaume's agent in Italy starting in 1827 (Illustration no. 11).[152]

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[147] By varying accounts, in 1802 or 1804. Sackman, "Cannone," 8. The Hill family give the year as 1799. Hill, *Guarneri*, 116-7.
[148] In December of that year the violin was damaged by the mother of Paganini's son Achille. Cide de Courcy, *Paganini*, 246-7.
[149] Sackman "Cannone," 6. Paganini recovered these instruments in 1839. Ibid., 17-18.
[150] In that year the fingerboard of his Guarneri was replaced by Nikolaus Sawicki while Paganini was concertizing in Vienna. Ibid., 25.
[151] Paganini had been nominated for the Order of the Golden Spur in 1826, but the award was delayed while the Holy See investigated Paganini's character. The departure from Italy was planned soon after Paganini finally received the Order of the Golden Spur from Pope Leo XII in April 1828. Cide de Courcy, *Paganini*, I 249. He bought an expensive carriage at this same time. Ibid., I 253.
[152] Sackman, "Canonne," 33

Illustration No. 11. Undated Photograph of Luigi Tarisio. Courtesy of Dr. Gerald Gaul.

The modern tendency is to assume that the violin was the most difficult part of the violin/violin bow pair to come by. This was certainly not true in the 1820s. In the days before violins could be authenticated by experts, old Italian violins were not particularly expensive. They made horrible investments and could end up being only about as valuable as a competent copy.[153] Before Paganini made Guarneri instruments famous, Stradivari, Amati, and Jacob Stainer instruments were the top tier of value.[154] Paganini put some effort into promoting Guarneri violins in the 1820s,[155] but Paganini's success in London in 1831 made Guarneri *del Gesù* instruments famous almost overnight.[156]

Paganini may have had considerable difficulty in obtaining a violin bow that matched his particular technique. The fundamental primer of North Italian violin playing during Paganini's time was *Elementi teorico-pratica di musica* (1791) by Francesco Galeazzi.[157] Whereas Galeazzi gives detailed instructions on the subject of how to supervise the manufacture of a new violin and detailed instructions on how to make and place a bridge, he instructs the reader in how to choose strings[158] and how to choose a bow. The primary consideration for the violin bow is that it must have a high tip: "As far as I am concerned, I consider the best one to be the one which extracts a more equal [up-bow and down-bow] voice from the instrument, which cannot be done without compensating for the lack of strength it has at the tip, by giving it a

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[153] Gaul, *Strad*, 79.
[154] Tim Baker et al, *The British Violin* (London: British Violin Making Association, 2000), 58. However, Michel Woldemar, writing in Paris, noted in 1803 that a violinist seeking a loud violin should choose a Stradivari or Guarneri instrument. Michel Woldemar, *Méthode de Violon par L. Mozart* (Paris, 1803), 5.
[155] Sackman "Cannone," 4.
[156] Baker, *Violin*, 61.
[157] Francesco Galeazzi, *Elementi teorico-pratica di musica* (1791) Second edition (Acoli: Francesco Cardi 1817).
[158] Ibid., 57-65. According to Galeazzi, the strings must be Italian and from one of five cities: Padua, Naples, Rome, Budrio, or Aquila.

greater distance from the stick."[159] As seen in Table No. 1, the Paganini Tourte violin bow has the highest hatchet tip of any revolutionary violin bow. The modern violin bows available to Paganini in the 1820s had low tips.

Above and beyond Paganini's specific requirements for a violin bow, a Tourte violin bow would have been very difficult for an Italian violinist to acquire in 1826 or 1827. Even when the Tourte family was at its peak of producing bows, one expected to wait to buy one.[160] Heavy-tipped violin bows like the Paganini Tourte were particularly hard to come by since almost all the later nineteenth century Tourte violin bows had lighter tips than the Viotti bow. In 1809, when Pierre Rode asked François Tourte for a modern violin bow with the more robust tip design of the Viotti bow, Tourte refused to make one.[161]

In order for Paganini to purchase a Tourte violin bow with the Viotti design, he would have had to have known of a violinist who already owned one. The most logical person to have been the original owner of the Paganini Tourte was Auguste-Frédéric Durand, a Polish-born French violinist who had been Paganini's mentor in the mid-1790s.[162] Durand taught Paganini most of what would become Paganini's most famous bowing tricks.[163] Durand had studied with Viotti for four years before becoming concertmaster of the Brussels Opera Orchestra in 1790, exactly the timing of the creation of the Viotti bow. Tricks like throwing the bow, inverted

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[159] Ibid., 73. My translation of: "*in quanto a me reputo la migliore quella, che cava dall'istromento una voce più eguale, ciò che far non is può senza compensare la namcanza della forza che ha in punta, con dargli una magiore distanza dalla bacchetta*."

[160] A joke of the early nineteenth century was that Tourte was the anagram of *tortue,* the French word for "tortoise." L'Abbé Sibire, *La Chélonomie ou La Parfait Luthier* (Brussels: A. Loosfelt, 1885), 143.

[161] Stewart Pollens and Henryk Kaston, *François-Xavier Tourte: Bow Maker* (New York: Machold Rare Violins, 2001), 44. Having a violin bow with a high, heavy tip only worked if one had strong Italian violin strings. A tip-heavy violin bow would break any other type of violin E string. Northern European durable violin E strings came about after 1831 and at least partially because of Paganini. Peruffo, "Find," 139.

[162] Cide de Courcy, *Paganini*, I 34-35.

[163] Ibid., I 34. A summary of Paganini's most dramatic bow techniques is in Kawabata, *Demonic*, 64-6.

bowing of dotted rhythms, and even left-hand pizzicato[164] were well established in Paris and associated with the Viotti bow before Durand taught them to Paganini. After teaching Paganini, Durand had a brief stint in the French Army in Italy and lived in Poland for a short time, but spent most of his career touring Europe. He did not fully settle anywhere until 1827, when he became the leader of the Strasbourg theater orchestra.[165]

In Post-Napoleonic Italy, Paganini had extensive contacts with the lawyer and violin-dealer Carlo Carli, who not only kept Paganini's best instruments, but also kept instruments for other collectors. Carlo Carli arranged for the sale of some of these instruments, notably the "Messiah" Stradivari violin of 1716.[166] Not knowing where Durand was living, Carli would have had to have used an agent to find Durand and acquire the bow. Fortunately, Luigi Tarisio, the person who nicknamed Paganini's instrument Il Cannone and who was already notorious for finding old instruments, was based in Northern Italy.[167] Paganini could have described the Viotti bow to Carlo Carli and supplied the information that Durand owned one. Tarisio could have gone off to where Durand was touring and bought both Durand's violin and bow.[168] Notably, when Durand showed up for work in Strasbourg in 1827, he did not own a violin or bow and made an annoyance of himself asking to borrow the instruments of others.[169]

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[164] Woldemar, *Grande Méthode*, 65.
[165] Barbara Chmara-Żaczkiewicz, "August Dranowski," *The New Grove Dictionary of Music and Musicians*, ed. Stanley Saddie, Vol. 5 (London: Macmillan Publishers Limited, 1980), 740.
[166] Gaul, *Strad*, 5.
[167] Milliot, *Vuillaume*, 75. The most logical time for Tarisio to have nicknamed an instrument "*il cannone*" would have been when he first examined it, i.e. at the time of the instrument's sale to Paganini. Sackman assumes the sale of a Guarneri violin to Paganini from Luigi Tarisio in Paris and in 1833. Sackman, "Cannone," 34. However, when Paganini bought his Stradivari viola in England in 1833, he was still in the habit of making the arrangements through his lawyer-friend Luigi Germi in Italy. Cide de Courcy, *Paganini*, II 130.
[168] Making difficult trips to acquire a desirable musical instrument was not unusual in the nineteenth century. A story of an adventure in Russia to acquire a Stradivari cello can be found in Laurie, *Dealer*, 84-108.
[169] Cide de Courcy, *Paganini*, I 35. Cide de Courcy implies but does not specify that Durand only borrowed instruments after moving to Strasbourg. The reference that Cide de Courcy gives refers to an episode noted by

The timing of the purchase would explain why the wrapping is missing from the Paganini Tourte. Paganini's teeth started falling out as early as 1826. By 1828, they were being held together by a thread, presumably silver thread. The origin of that thread was the Paganini Tourte.[170]

Ludwig Spohr in 1817. At that point in his career, Durand missed a concert because he refused to play the rehearsal with anything other than his own violin and violin bow. Ludwig Spohr, *Selbstbiographie* I (Cassel and Göttingen, Germany: Georg H. Wigand, 1860), 247.

[170] The Paganini Tourte clearly once had a silver wrap next to the frog for the index finger of the right hand. The impression of the wrap is still on the bow. The grim story of Paganini's teeth can be found in Gaul, *Strad*, 241-3.

WHO DID IL CANNONE THREATEN AND WHY?

Before we address the Paganini Tourte, we must address the Viotti Tourte. Who did it threaten and why? Fortunately, we do not have to guess, thanks to an anonymous letter sent to a Paris newspaper in 1791, when Viotti's opera orchestra was at the peak of its influence:

> Sir, in the account you have given of the performance of the opera, *Deux Nicodemes*, you have omitted a few very essential facts. The public must know about a Jacobin violinist, Mr. Viotti. His whole soul has been transferred to his bow, he has no other title to conceit than his stupidity, and his ingratitude for the kindness of the Queen is only comparable to the worthlessness of his entire life. Even without this report, you could have known that he was the apostle and bearer of all the filth that is vomited in his theater. Mr. Leonard would be best served by purging himself of this obscene and flat swamp opera, which is keeping him away from better productions that might insure the survival of his venue.[171]

The Jacobins that Viotti appeared to be promoting would become the faction of French Revolutionaries who created the French Terror of 1793-4. In 1791, it was possible to suggest that good citizens like Mr. Leonard, the administrator of the theater, were courting death by associating with Jacobins, but by the time of the cannon operas of 1794, being a Jacobin violinist and using a Viotti bow ensured survival rather than threatened it.

What is most curious about this passage is that the author locates Viotti's soul in Viotti's bow. In 1791, Viotti was no longer performing violin in public. The writer only saw Viotti's bow in the hands of the principal violin players of Viotti's opera orchestra. The writer is pointing out something profound: that the violin bow itself has agency and autonomy and is forcing the

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[171] My translation of: "Monsieur, dans le compte que vous avez renda de la représentation des *deux Nicomdêmes,* vous avez omis une circonstance tout-à-fait essentialle. Il faut que le public sache qu'un violon de Jacobin, dont tout l'esprit est dans son archet, qui n'a d'autre titre à la fatuité que sa bêtise, dont l'ingratitude pour les bontés de la reine, n'est comparable qu'à la bassesse de toute sa vie; que sieur Viott. enfin, on l'eût nommé sans moi est l'apôtre et le portectuer de toutes les saletés que se vomissent sur ce théâtre; que le sieur Léonard voudroit purger de ces fétidités burlesques, plattes, allusoires, que en éloignent la bonne compagnie, que le fait vivre." *Journal de la Cour et de la Ville no. 2* (Paris: November 26, 1791), 205-206.

players to act in the interests of Viotti and the Jacobins. Following the argument of Tresh and Dolan, [172] the Viotti violin bow is acting autonomously while simultaneously acting as an extension of the human being that uses it, something we would associate with the functions of a modern smartphone.

The anonymous writer of the letter in *Cour et Ville* intended to connect Viotti to the esoteric practices of Freemasonry. After 1786, the patronage of the Queen was a regular occurrence for Viotti when he conducted a Masonic orchestra, the Orchestra of the Olympic Lodge. These concerts took place in the *Salle des Gardes* of the Tuileries Palace and were a famous display of sartorial excess. The musicians wore embroidered suits with lace cuffs and swords while performing, keeping their feather hats on the bench next to them.[173]

Viotti was a Masonic violinist,[174] but not the most notorious one to visit Paris, a title that belongs to Compte Saint-Germain. Although Saint-Germain was the mythical founder of the French Occult Revival rather than a real person, he reminds us that French Freemasonry of the Enlightenment and other secret societies of the time dabbled extensively in the occult.[175] Saint-Germain haunted Europe for at least a hundred years. In 1745, he was alleged to have been arrested in England during the Jacobite rebellion. At that time, Horace Walpole wrote to a friend that "[Saint-Germain] sings and plays on the violin wonderfully, is mad and not very sensible."[176] Making his way back to haunt France, Saint-Germain was reported to be one of the French delegates to the Masonic convention that took place in Paris in 1785.[177]

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[172] Tresch and Dolan, "Organology," 279.
[173] Millant and Raffin, *L'Archet,* Ia, 91.
[174] Ibid.,76
[175] Christopher McIntosh, *Eliphas Lévi and the French Occult Revival* (Albany, NY: SUNY Press: 2011), 20.
[176] Ibid., 18.
[177] Ibid., 19.

The pre-1795 French School of the Violin was a quasi-masonic order, and as such, attracted its own set of what Christopher McIntosh describes as "odd fish," most notably, Michel Woldemar. Some of Woldemar's strangest ideas were rejected and some of his ideas were subsequently accepted without much scrutiny. While François-Joseph Fétis acknowledged that Woldemar was "remarkable for his eccentricities,"[178] Fétis still uses the convention that the violin bow is a type of magic wand.[179]

With this in mind, if we revisit Woldemar's taxonomy of violin bows, we can see that the bows he lists are not particular tools, but rather esoteric shortcuts to becoming Corelli, Tartini, Cramer, or Viotti. Only the Viotti bow was widely believed to be effective in this function. This explains the existence of Cramer bows that have been modified to have higher tips so that they might work more like the Viotti bow.[180] To appreciate that the Viotti bow was considered to have magic powers, we need only to notice that during the 1790s, violinists of the French School were considered to be like Amphion, the founder of ancient Thebes who could move stones into place with the power of his violin playing (Illustration No. 12).[181] Although a violinist living today can hardly imagine that a violin bow design might have significant social repercussions, in the 1790s, opera was considered to be Revolutionary act,[182] violin players exerted significant social control,[183] and the Tourte family had a significant role in determining which violinists would

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[178] Fétis, *Stradivari*, 111.
[179] Ibid., 109.
[180] Millant and Raffin, *L'Archet*, Ib 101, Bow 1.
[181] Sibire, *Chelonomie*, 23. The anachronism here is obvious, but in the eighteenth century it was still possible to argue that the violin family was invented by Mercury, the Roman god. Mozart, *Treatise*, 19.
[182] Goldhill, Simon. "Who Killed Gluck?" In *Gluck,* edited by Patricia Howard, 447-479 (London: Ashgate Publishing Limited, 2015), 478.
[183] Sibire, *Chelonamie*, 23. In his typical histrionic style, Sibire describes Viotti, Kreutzer, and Rode as gods brought to earth. The original *Chelonamie* came out in 1806. Sibire's perspective was formed in Paris and during the Revolutionary Period.

Illustration No. 12. 1731 French Engraving showing Amphion Building Thebes with his Violin. Broadman Images.

be able to play well enough to be on the opera stage and which violinists would not.[184]

By the end of 1794, Jacobins were actively persecuted.[185] Starting in 1795, the politics of France became focused on cooling, rather than inflaming Revolutionary ardor.[186] Quite independently of having used Viotti bows, violinists had done their part to perpetuate the Terror.[187] This explains why the end of the violent phase of the French Revolution involved the end of the old Viotti system of violin mentorship. The old system was replaced by a new system of violin mentorship as exemplified by the Paris Conservatory.[188] It also led to the disappearance from history of the creator of the Viotti violin bow design and the early modern violin bow design, Nicolas Léonard Tourte.[189]

The older Tourte brother went into hiding in late 1794.[190] The prime reason we believe that François Xavier Tourte created the Viotti bow and the modern violin bow is that Nicolas Léonard Tourte's name was carefully avoided in all nineteenth century histories of the violin bow. That the association of the Viotti bow and revolutionary cannon has been lost to us makes perfect sense in light of the fact that France underwent several nineteenth-century surges in revolutionary violence.[191] Baillot, writing in 1834, Fétis, writing in 1856, and Vidal, writing in 1877, would have had recent French revolutions to temper their desire to link the French School

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[184] Sibire, *Chelonamie*, 15. Sibire insisted that a violinist played the bow rather than the violin.
[185] In late 1794, extrajudicial violence against former Jacobins was endemic in Paris. Schama, *Citizens*, 852.
[186] One of the early acts of the post-Jacobin government was to execute the Prosecutor of the Revolutionary Tribunal. He had presided over, and hurried through countless trials, sending over 16,000 mostly innocent people to the guillotine. He proclaimed his innocence to the very end. Schama, *Citizens*, 851.
[187] Paul Childs gives the example of the violinist and luthier Léopold Renaudin, who was a juror of the rubberstamp Revolutionary Court and was himself executed during the anti-Jacobin reaction. Childs, *Tourte,* 56-7.
[188] Vidal, *Instruments*, 160-1
[189] William Retford, writing in the 1960s, knew that much of the credit given to François for late transitional and early modern violin bow designs was a complete fiction. But he did not even know the real name of the older Tourte brother. Retford, *Bows*, 43-5.
[190] Childs, *Tourte*, 58.
[191] For example, in 1830, 1848, 1870.

to the French Revolution. Achille Paganini, conspiring with Jean-Baptiste Vuilliume to donate a broken violin bow to the City of Genoa at the dawn of the autocracy of Napoleon III, would have had his own reasons not to link his famous father to the famous political leader of the Revolutionary Era French School of Violin Playing, Giovanni Battista Viotti. When Achille Paganini broke a modern bow and created the mock death of the Paganini Tourte in 1851, it was to demonstrate that the real Il Cannone bow would never again perform its revolutionary magic. Only Jean-Baptiste Vuillaume and Achille Paganini would have known that the real Il Cannone bow was still intact.

Most of the instruments that were owned by Niccolò Paganini were sold by Achille in the 1850s. The Paganini Tourte was left to Achille's son Giovanni, who inherited the violinist's memorabilia and a treasure trove of precious stones, jewelry and gold medals. Giovanni sold the treasure to Mussolini for 500,000 lire,[192] but not realizing the significance of the bow, left it with the pathetic remainder of items eventually sold to Mendozzi.

Three false narratives that were spread about Paganini in the 1850s further disguised the existence of the Il Cannone bow. First, that Paganini cared much more about his violin than his violin bow.[193] Second, that Paganini continued to use the late Italian transitional violin bow.[194] Finally, that he could not play the violin music of the French School.[195] All three reports were made by one influential musicologist, François-Joseph Fétis. Fétis also made most of the early

[192] Giovanni's widow, who was left destitute, was interviewed by Cide de Courcy in the 1950s. Cide de Courcy, *Paganini*, I 359n, II 392.
[193] Fétis, *Stradivari*, 129-30.
[194] Fétis, *Paganini*, 74. The look of being over-tightened that Fétis describes in Paganini's bow was typical of the Italian transitional bows. Millant,*Vuillaume*, 67.
[195] Fétis, *Paganini* 75-6.

contributions to the demonic perspective on Paganini's art.[196] The obliteration of the Viotti violin bow as an identifiable entity within the taxonomy of transitional violin bows was almost entirely the work of one man: Jean-Baptiste Vuillaume, who was the source of spurious information for all the important French violin bow historians of the nineteenth century.[197]

Achille Paganini, François-Joseph Fétis, and Jean-Baptiste Vuillaume were abetted in their obliteration of the knowledge about what the Viotti bow could do by violinists who knew but kept quiet. Viotti was the first to renounce his actions during the revolution. In March of 1798, both Pierre Rode and Viotti were abruptly expelled from England on the suspicion that they were both still active revolutionaries.[198] Upon arriving in Germany, Viotti immediately renounced his past association with the French Revolution by writing and publishing a personal biography. He claimed:

> Everyone wore the uniform of the National Guard. I did the same. I was obliged to all the more because my theater was known to be under the patronage of the Queen, the rendezvous of aristocrats. Everyone mounted guard: I was forced to do so like the others. Everyone tried, in this frightful confusion, to have the support of a member of the Assembly; I also tried—my fortune and my life depended on it, and I must admit that it seemed to me that I knew good and honest men.[199]

Rodolphe Kreutzer renounced the Viotti bow by defining himself as a *legato* player; this was the excuse he gave for refusing to play the Beethoven Violin Sonata Op 47 that was dedicated to him.[200] Pierre Baillot made sure that the most dramatic of the Viotti techniques did not make it into his violin treatise and also discouraged his students from exploring them on their own. If one

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[196] Ibid., 64.
[197] Millant and Raffin, *L'Archet*, 66-8.
[198] Lister, *Amico*, 218-9.
[199] Ibid., 381.
[200] Bruce R. Schueneman, *The French Violin School: Viotti, Rode, Kreutzer, Baillot and Their Contemporaries* (Kingsville Texas: The Lyre of Orpheus Press, 2002), 70.

of his students tried left hand pizzicato, harmonics, or the thrown bow, Baillot would dramatically cover his face, as though the student was performing an obscenity.[201]

As late as 1800, Michel Woldemar was still publishing esoterica about violinists and their bows. His work, *L'Ombre de Lolli*,[202] is a collection of violin sonatas composed in imitation of the music of Antonio Lolli and his pupils, including Mestrino. Although these sonatas are announced to be "*fantò-magique*,"[203] there are no reference illustrations of violin bows and there is no music of Viotti. Even mild reminders that there had once been individual violin virtuosos mentoring individual students was too much. In 1802, the Paris Conservatory was purged of violin professors who dared to have their own private students on the side.[204]

By the early nineteenth century, the end of the original French School and suppression of the Viotti bow was accepted as a social necessity. Abbé Sibire had this to say in 1806:

> What would have happened if this new empire had continued to awkwardly drag the tiny plain-singing violin into its great revolution? What would have happened if we had continued under the influence of the great Amphions of the turn of the century—Viotti, Rode, Kreutzer, Baillot, and Lafont? What would have happened if we had continued to hear their violins and their concertos in our homes and in the theaters? The violence of their universal electricity would have put us into a trance and seized control of us. As it was, those ordinary musicians seemed to be gods descended to earth.[205]

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[201] Louis Lombard, *The Art Melodious* (London: F. Tennyson Neely, 1897), 162-3.
[202] "The Shadow of Lolli." The score can be found at: https://imslp.org/wiki/Category:Woldemar,_Michel
[203] His own neologism based on the French words for "phantom magic."
[204] Millant and Raffin, L'Archet, 99, 176. In these passages, the authors are frustratingly imprecise, and they imply that bows with metal ferrules were also forbidden in the Conservatory after 1801. But their illustration of the purged violinist Marie-Alexandre Guénin shows a violinist using a violin bow without any camber and without a ferrule. Unfortunately, the tip of Guénin's bow is outside of the frame. His bow could easily have been a Tartini style bow, but not a Cramer, Viotti or early modern bow, which have camber. Ibid., 177.
[205] Sibire, *Chelonomie*, 23. My translation of *"Qu'on imagine la grande revolution qu'essent opérée dans cet empire tout neuf d'un plein-chant musical, traîné lourdement sur un diminutive de violon, nos Amphinos de 1800, les Viotti, les Rode, les Kreutzer, les Baillot, les Lafont etc., etc., apparaissant tout-à-coup avec leurs concertos et leurs violons, dans les cercles ou sur les théâtres. Quelle stupor! Quelle ravissements! Quelle électricité universelle! San doute on les eút pris pour des dieux descendus sur la terre.*" Translated differently in Gaul, *Strad*, 138.

Sibire's use of the words "*électricité universelle*" is revealing. The magic of the Viotti Tourte violin bow was its access to the "Astral Light," what Christopher McIntosh describes as the French Occult's notion of the "invisible, all-pervading fluid or medium on which thoughts can be imprinted and through which phenomenon can be influenced."[206] Sibire also intends to communicate that the stupor created by the violinists of the French School was used for the purpose of ravishment, that is, the violent seizure of the minds and wills of unsuspecting audiences. This dark magic was a threat to the purely political and social goals of the First French Empire that was to come. Paganini, the last magician of the Viotti bow, was just as much a threat to that social order. As Mai Kawabata points out, Paganini's contemporaries linked Paganini's use of power to that of Napoleon Bonaparte.[207]

His waning ability to focus the power of the *électricité universelle* was exactly Paganini's concern the month when he switched from using the Il Cannone violin bow on the violin to using it on the viola. He wrote to Luigi Germi in April of 1833: "Not having played for six months, I can't tell you how difficult it is for me to work up the necessary electricity to play."[208] Nonetheless, Paganini was able to create at least one more bit of magic. In May of 1833, he "triumphed" against his enemies as a violist using the Paganini Tourte. In July of 1833, he informed Germi that his "violin artillery piece" was still working. And then, by the end of 1833, he was convinced that it was time to stop trying to drag the tiny plain-singing violin into the great revolution.

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[206] McIntosh, *Occult*, 8.
[207] Kawabata, *Demonic*, 86-7.
[208] Cide de Courcy, *Paganini*, II 130.

Mai Kawabata argues that the "demonic" characterization of Paganini's playing has become normative, so much so that it is almost impossible to see any real virtuosity beneath Paganini's satanic veneer.[209] In view of Paganini's mystical connection to the French School, a more realistic portrait is painted by Pierre Baillot, a student of Viotti, who said this about Paganini's art: [Paganini has] "fool proof intonation, self-assurance that I can compare only to that of Viotti, unheard-of cleanness and facility, and all that join to great warmth, feeling, and originality."[210]

Is the Paganini Tourte violin bow Il Cannone? If we allow ourselves to look at the Paganini Tourte violin bow and the Guarneri *del Gesù* violin owned by the City of Genoa as a pair of instruments that Niccolò Paganini felt would be as effective as the instruments used by violin soloists during the time of the French Revolution, the answer is yes. Coming to this conclusion, we can finally see Paganini, not as some kind of demonic force in music, but as a continuation of the traditions of the French School and its founder, Giovanni Battista Viotti. These traditions go beyond the rote learning that violinists normally assume is the full measure of the études of Kreutzer or Rode and into the mystical communion with the violin bow that Michel Woldemar so aptly named "ghost-magic."

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[209] Kawabata, *Demonic*, 140.
[210] Zvi Zeitlin, "Forward." Baillot, Pierre Marie François de Sales. *The Art of the Violin*, ed. and trans. by Louise Goldberg (Evanston, Illinois: Northwestern University Press, 1991), xviii.

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Vita for Olga Kossovich, Violinist

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Professional summary:

Olga Kossovich graduated with the highest academic standing from the most prestigious music institution in Russia, Moscow State Conservatory. Olga is currently obtaining her doctoral of musical arts degree (DMA) at the Bienen School of Music, Northwestern University, one of few fully-funded DMA scholarship-based intuitions in the United States. She has worked as a violin performance teaching assistant at Moscow State Conservatory, Northwestern University, and also

at the prestigious Meadowmount masterclass series. Olga currently performs with her 1856 Jean-Baptiste Vuillaume “Messiah” Strad copy and the ex-Paganini “Il Cannone” Tourte violin bow. Olga has competed in many national and international competitions and has perfected her craft as a violinist with guidance from several well-known artists, including Pinchas Zukerman, Ilia Kaler, Boris Kushnir and Shlomo Mintz.

In addition to her successes as a concert violinist, Olga has developed expertise in violin bows of the Classical Period. Working with an encyclopedic collection of authentic French transitional violin bows, she was able to link the violin bow Paganini used at the height of his concert career to the violinists of French School and to the “cannon” operas of 1794.

In 2020, Olga became first violinist in the Buffalo Commons Music pandemic concerts in Grand Forks, ND. She became Music Director of the performance group in 2022.

Education

2021 – 2024.	Bienen School of Music	Doctor of Musical Arts
2019 - 2021	University of North Dakota	Master’s degree
2013 - 2018	Moscow State Conservatory Tchaikovsky	Combined MFA/BM
2002 – 2013	Moscow Central Music School	K12 oriented to Music

Publications:

Is the “Paganini Tourte” actually “Il Cannone?” The Organology of Niccolò Paganini’s French Transitional Violin Bow. Final DMA project, Northwestern University, June 2024

Concertizing – Performances

Multiple solo performances and recitals in Galvin Hall of Bienen School of Music (Evanston, IL, US)

Performed Brahms Violin Concerto as a soloist in collaboration with conductor Nicholas Koo and with Northwestern Orchestra (Galvin Hall, Evanston, IL, US)

Performed Beethoven Violin Concerto as a soloist in collaboration with conductor Yuxin Dai and with Northwestern Orchestra (Galvin Hall, Evanston, IL, US)

Performed Scherezade by Rimsky-Korsakov as a concertmaster of Northwestern orchestra (Pick-Staiger Concert Hall, Evanston, IL, US)

Buffalo Commons Music Concerts

Performed Wieniawski Faust Fantasy with Bismarck-Mandan Symphony Orchestra (Bismark, ND, US)

Performed Wieniawski Faust Fantasy with Great Grand Forks Symphony Orchestra (Grand Forks, ND, US)

Multiple solo performances in Moscow Conservatory Concert Halls

Performed Wieniawski Faust Fantasy with Symphony Orchestra of Soloists State Chamber Music Theater *St. Petersburg Opera* (Saint Petersburg, Russia)

Performed Shostakovich Violin Concerto No. 1 with the Togliatti Symphony Orchestra

Regularly featured as soloist and concertmaster of the *Antonio Chamber Orchestra* (Moscow, Russia)

Multiple chamber and solo performances in international festivals.

Competitions

2023	Chicago, US	Musician Club of Women Annual Awards Competition 2023	Winner
2022	Evanston, US	Samuel and Elinor Thaviu String Performance Competition	I Prize
2021	St. Louis Park, US	Thursday Musical Young Artist Scholarship Competition	I Prize
2019	Bismarck, US	BSO Young Artist Competition	I Prize
2019	Grand Forks, US	GGFSO Young Artist Concerto Competition	I Prize
2017	Kazan, Russia	I International Young Performers Competition Rudolf Gummert	II Prize
2016	Loutraki, Greece	9th International Music Festival and Summer University of Music	I Prize
2015	Samara, Russia	III Savely Orlov International Music Competition	II Prize
2012	Togliatti, Russia	XVII Togliatti International Competition	Winner
2009	Ekaterinburg, Russia	Demidov International Youth Violin Competition	Winner
2006	Paris, France	UFAM Concours de Musique	I Prize
2005	Paris, France	UFAM Concours de Musique	I Prize

Private Lessons

2023 Prof. Kolja Blacher

2021 Prof. Pinchas Zukerman

2020 Prof. Gerardo Ribiero
Prof. Ilia Kaler
Prof. Paul Kantor
Prof. Dmitry Berlinsky
Prof. Mihail Kopelman

Masterclasses

2023 Kronberg Academy Masterclasses, active participant

Prof. Kolja Blacher

2021 Meadowmount School of Music (online)

Prof. Elmar Oliveira

2020 Dorothy DeLay Masterclasses Series (online – sponsored by MSU)

Mtro. Shlomo Mintz

2017 Crans-Montana Classics – Crans-Montana, Switzerland

Mtro. Shlomo Mintz
Prof. Cihat Askin
Prof. Sonig Tchakerian
Prof. Sungsic Yang

2017 Venice Music Master – Venice, Italy

Prof. Pavel Vernikov
Prof. Svetlana Makarova

2017 Saint Petersburg Music House – Saint Petersburg, Russia

Prof. Boris Kushnir

2016 9th International Music Festival and Summer University of Music – Loutraki, Greece

Prof. Ara Bogdanian