Performance Practices in Four Puccini Arias:
Tempo Choices and Choosers

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Performance Practices in Four Puccini Arias:
  Tempo Choices and Choosers

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Under the Supervision of
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Introduction

Over the course of the last 148 years, recording technology has improved dramatically. Initially considered an enterprise whose greatest benefits would be for the workplace, it has instead progressed in the opposite direction, culminating in the multi-billion dollar private entertainment industry that presently exists. Among the millions of people who partake of the overabundance of recorded sound are the comparative few who are responsible for the creation of recordings. In making a recording, artists preserve an interpretation at a particular point and under particular circumstances. Because of this, no two recordings are identical, unless, as in the recent matter of Joyce Hatto, they are stolen from another performer and falsely attributed.¹ Recordings preserve interpretations and a comparison of two or more recordings of the same music reveals differences, sometimes subtle, sometimes dramatic. One major reason for these differences is the unique set of practices that artists observe as part of their interpretation. These practices, without which the reading of a musical score is essentially mechanical reproduction, are often built upon understood traditions that have grown out of personal experience and idea, among other things. Performers of opera, perhaps more than those of other genres, often rely heavily upon tradition to inform their interpretation.

The operas of Giacomo Puccini have been some of the most popular works since their premieres. For me, there is no greater delight or reward than attending or performing (only in the pit at this point) any of these operas. The passion inherent in the music, especially when joined with an equally passionate performance can be overwhelming to the point of tears. One extra-musical thing that is particularly fascinating about Puccini’s operatic career is that it coincides with the early years of the recording industry. Some of the singers with whom Puccini worked can be heard in the earliest recordings. Initially, this might seem like the best place to observe performance practices of Puccini’s works as he envisioned. This could be true in some cases, especially with regard to topical affectations such as tempo rubato and portamento. With regard to Puccini’s notoriously particular sense of dramatic pacing, early recordings may not be accurate depictions of his conceptions because of the technological limitations of recordable space. Furthermore, the circumstances under which recordings are made can motivate performers to alter their approach for a variety of reasons.

If the recording technology or circumstances have influenced the final product of recordings, no real harm has been done. If later recordings bear the influence of earlier recordings, then they too portray possible misrepresentations of Puccini’s conceptions. If such recordings improperly influence performance practices that occur on stage, then stage performances are in danger of being mimicked recitations. Purely mechanical reproduction of music, even if the initial production was nuanced, is not performance. In fact, some would say it is not even music.
In this project, I will review the various recording media and environments of recordings. Next, I will examine the current literature on the ways in which recordings have influenced musical production, paying particular attention to issues of media duration and performance tempo. After a brief theoretical discussion of Puccini performance practices, I will analyze the recorded tempi in four Puccini arias with respect to the environment of recording for possible influences.
CHAPTER I
A BRIEF HISTORY OF RECORDING

This simple act of transcribing sound is the foundation upon which the present day multi-billion dollar recording industry has been established. The face of this industry has changed with each new technological advance in recording media, and, as this study will show, these changes in technology have had direct impacts upon the sounds captured. In order to understand how the various circumstances of recording have affected performance practices throughout the twentieth century, the history of the development of the different technologies bears visiting first.

In 1856, Leon Scott developed one of the world’s first devices by which sound could be transcribed into a lasting analyzable document. Though Scott’s machine did not playback sound, as it only traced vibrations, “It was, as one historian of the phonograph describes it, ‘halfway toward a talking machine.’” The intervening years between Scott’s transcription device and Thomas Edison’s first successful playback machine in December of 1877 saw F.B. Fenby earn a patent for ‘The Electro Magnetic Phonograph’ (1863) and M. Charles Cros file detailed plans for a paléophone (April 1877). Alexander Graham Bell and Clarence Blake, who together created a machine similar to Scott’s, made less successful attempts. In the end, Cros lost the phonograph patent race to Edison much the same way that Elisha Gray lost the telephone patent race to Alexander Graham Bell, by a combination of bad luck and lack of action. When the question of

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credit for the invention arises, “let it be resolved by giving each his due; Charles Cros for being the first to conceive the phonograph, Thomas Edison being the first to achieve it.”

These machines served the purpose of transcribing sound, turning the vibrating airwaves into something more tangible. However, none of these inventors foresaw the future of their respective devices. For Scott, it was a novel toy; for Fenby, Cros, and Edison, it seemed a likely tool for dictation in business. The only conception of private use for a phonograph (the shortened form of phonautograph) was as a means by which to record the last words of the dying.

THE FACES OF THE RECORDING INDUSTRY

Tinfoil & Wax Cylinders

Leon Scott’s device etched vibratory patterns onto a piece of smoked paper wrapped around a cylinder. Edison’s first recording, of the nursery rhyme ‘Mary had a little lamb,’ was made on paraffin-coated paper, which proved similarly fragile and compelled Edison to find a sturdier medium. Needing something that was both malleable, as it had to be wrapped around the cylinder, and durable, as it had to withstand handling, Edison soon discovered that tin foil fit his purposes. Eventually, this too proved fragile, as it had to be wrapped and unwrapped from, and aligned with, the

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5 New York Times, 03/27/2008: Scientists have found a recording paper made by Scott and developed a means by which to play it. It is of the French folk song, *Au Claire de la Lune*. This recording was made in 1860, 17 years prior to the earliest surviving Edison cylinder.
grooves on the cylinder, as seen in Figure 1. Typically, no more than ninety seconds of sound could be transcribed onto a sheet of foil wrapped around the cylinder.

Figure 1

After Edison has turned his attention to electricity, and most famously, the light bulb (1879), Alexander Graham Bell took an interest in the cylinder phonograph. Bell and his assistants made several advances to the device that proved critical, such as the use of wax, the floating stylus, and an electric motor to maintain a constant rotation speed. He later employed clockwork motors when the electric version proved too costly for the early market. This improved machine, which Bell called the ‘graphophone,’ was introduced in 1886 as a dictation machine. Bell’s benefactors managed to buy into the Edison patents, and established several companies to produce the new model, among

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6 http://www.tinfoil.com/tinfoil.htm - The foil was laid over the cylinder and a sliver of wood placed in the longitudinal groove. Typically, the recording was destroyed in the process of removing the foil.
them the Columbia Phonograph Company. This venture initially failed, as there was not enough of a demand for the device in the workplace.

A new conceptualization of the potential uses and marketability of the improved cylinder rose from the operators of various amusement venues: the coin-in-the-slot machine. The first to build a jukebox was Louis Glass, manager of a San Francisco phonograph company. When, in 1889, he placed one of his machines in a saloon, the purpose of the phonograph shifted decisively from the recording and playback of speech to music.\(^7\)

Seeking a still more durable medium, Edison had made improvements to Bell’s wax cylinder in the late 1880s. Due to the nature of the material, this enabled the etching of smaller grooves than was possible in foil. Smaller grooves meant more material could be placed in the same or a similar amount of linear space. Prior to 1900, the amount of sound that could be transcribed on a cylinder was ninety seconds. Introduced in 1902, the higher fidelity 120-160 rpm cylinders could hold 2 to 2½ minutes at 100 grooves per inch. By 1908, the groove spacing had been halved, allowing 200 per inch and 4 minutes of music. Wax cylinders suffered from extreme brittleness and they had the unfortunate property of wearing down upon each successive playback, limiting their already scant audibility. The combination of the fixed stylus and the ability of the wax to absorb some amount of vibration, further limited the audibility of the medium.

\(^7\) Chanan, pp. 25-6.
As Figure 2 illustrates, the stylus is firmly fixed to the base of the horn, and the sonic impulses are etched into the wax as it rotates about the center rod. The fixed stylus presents an issue in that regardless of the amplitude of the sonic impulse transmitted from the horn, the depth of the etching in the wax remained the same, limiting the dynamic scope of the recorded sound. Nevertheless, by 1891, Edison, through the Columbia Company, published a ten-page catalogue of cylinder recordings. These recordings encompassed Sousa marches, comic monologues, and what was termed “artistic whistling.” At this point, even though the cylinders cost only fifty cents, the phonograph was available only to those with deep pockets, costing $150.\(^8\) By 1898, the price dropped to $20, which was still nearly twice as expensive as the phonograph cylinder’s rival technology, the gramophone disc.

\(^8\) Gelatt, p. 25.  
\(^9\) http://memory.loc.gov/ammem/edhtml/edcyldr.html
Variable Speed, 78RPM, & Long Playing Discs

The transition from cylinder to disc began in 1887, when German immigrant Emile Berliner filed a patent for a laterally cut disc. His first recordings were issued the following year, and in 1889, he licensed a toy maker to make seven-inch discs and small, hand-turned playback devices.

Figure 3

Though viewed initially as novelty items, the Berliner discs had certain advantages over cylinders. When it appeared commercially in the United States in 1894, the single-sided disc cost sixty cents and held two minutes of material, an improvement over the ninety-second capacity of the cylinder at that moment.\textsuperscript{11} Discs were first made from a form of

\textsuperscript{10} Gelatt, photograph insert following page 64.
\textsuperscript{11} http://history.sandiego.edu/gen/recording/berliner.html
vulcanized rubber, ebonite, which did not wear out as quickly as wax, nor was it as subject to chemically induced deterioration as wax. Partly because of the high durability of this material, these discs were difficult to press. Berliner then discovered an alternative substance used in making buttons, called Durinoid. Durinoid was an amalgamation of shellac and other substances that was both durable and easy to press. The machine upon which discs were played was also more cost-effective than that for cylinders, costing a mere $12.

Despite the relative affordability of Berliner’s machine, it was little known outside of Washington, DC. Berliner was not interested in launching a national advertising and production campaign; he sought backers to finance further development and manufacturing of the Hand Gramophone. Had it not been for the efforts of Berliner’s hired promotional assistant, B.F. Karns, the gramophone would likely have had the fate of a toy. In the autumn of 1895, Berliner received notice that a syndicate of investors in Philadelphia was willing to give support in the amount of $25,000. From the inception of the Berliner Gramophone Company in October of 1895, one of the greatest technological contests of the modern era commenced, the outcome of which remained unclear for nearly three decades.

Given the advantage of more than a century of hindsight, in the struggle between the cylinder-playing phonograph and the disc-playing gramophone, the result seems predestined.

The gramophone was a simpler, more rugged mechanism than the phonograph; it could lay claim to the immense superiority of easily duplicated records made of tough, resistant material; it reproduced sound with far greater volume and, consequently, was better suited for home entertainment. But these
advantages were much less evident to the onlooker in 1895 than they seem today. The gramophone was a crude and untried upstart, the phonograph an established invention bearing the valued imprimatur of Edison...Viewed side by side, the gramophone seemed a poor relation, the phonograph a bejeweled grande dame.\(^\text{12}\)

The cylinder and disc slowly made their way into American homes, largely due to the efforts of the Columbia Phonograph Company and the Victor Talking Machine Company, respectively. With increasing sales of the phonograph (cylinder) and gramophone (disc), the number of recording artists and recorded sound documents grew expansively. In both media, the large majority of music that was recorded was done so in the single song format, as the amount of available time was only 2 - 2½ minutes. In 1902, the 10-inch disc was developed, allotting roughly 3 - 3½ minutes of space per side. In 1903, the 4 - 4½ minute twelve-inch disc became available and was primarily used for recording classical music and opera excerpts; its recording time was between four and five minutes. In the mid 1920s, the development of the microphone improved the clarity of recording, especially for large ensembles.

Prior to the Depression, record sales peaked at 128 million sold in 1926, but just six years later, sales had plummeted to 6 million. This drop is linked both to the Depression and to the rise of a new medium for sound dissemination, radio. Radio had been in existence for more than a decade when the Great Depression began, but as with most new technologies, time was required for development of both the technology and the economics of the medium. One of the major offshoots of the development of radio was the long-playing disc. RCA introduced the 16\(\frac{3}{4}\) rpm disc LP in 1931 as a more durable means of transcribing sound, primarily commercials, that could be shared easily

\(^{12}\) Ibid, p. 68.
between radio stations. The earliest LP discs were made of shellac-coated metal and held roughly fifteen minutes of material on a side. These discs did not prove economically viable at this point, however. One major complaint about the disc before 1935, as noted by Cuban writer Alejandro Carpentier, was that “it emphasized the bass, producing a ‘certain sonic opacity’ which got worse towards the center of the spiraling groove.”

Though the shellac LP did not catch on at this point, shellac became the medium of preference for 78rpm discs until the 1940s, when World War II cut the supply lines from shellac producing countries, pushing record producers in the direction of vinyl.

Despite the advantage of the LP over the 78rpm disc in terms of the amount of available uninterrupted sound recording, it was not until after the Second World War that the LP became more prominent in the industry than its predecessor. In 1944, engineers in a new CBS laboratory made a disc entirely from vinyl. This had two immediate positive repercussions upon the industry. First, the materials of the disc were entirely domestically produced, enabling largely unrestricted manufacturing and dissemination. Second, the grooves on a vinyl record could be made much smaller than those on shellac, enlarging the recordable amount of space. Vinyl also offered an improved signal-to-noise ratio, enabling a slower recording/playback speed than a 78rpm disc, with greatly improved sound quality. The recording/playback speed of these discs was not standardized until 1948, when Columbia issued the 33 1/3 rpm micro-groove long-playing record. This is the disc generally referred to as an LP.

**Magnetic Recording**

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13 Chanan, p. 66-7.
Experimentation with magnetic recording began as early as early as 1898, when Valdemar Poulsen built a prototype wire recorder based on an 1888 proposal by Oberlin Smith. Though this magnetic recording technology would much later play a very substantial role in the recording industry, at this point, it was impractical as there had not yet been developed a means of amplification. The first use of a flexible tape instead of wire dates from the late 1920s, when German Fritz Pfeumer used paper coated with metallic oxide. This technology was launched commercially in 1934 with a recorder made by AEG. The plastic tape, which was modeled upon the filmstrip, was made by Siemens subsidiary BASF. Like the early phonograph, the early tape recorder was marketed as an office machine. Though an improvement over Poulsen’s device, the “Magnetophone” suffered from a limited frequency response and significant distortion, rendering playback quality poor. In the United Kingdom, the BBC experimented with a similar device that employed a polished tungsten steel strip as the carrier, but abandoned it for safety concerns.

Magnetic recording/playback technology was first and foremost a German technology, and was used by the Axis powers during World War II. The Allied forces discovered this technology upon capturing Radio Luxembourg and then began using it to their own ends. Not until after the end of the war did magnetic recording receive a boost that would elevate its relevance. A.M. Poniatoff, who had been one of the American soldiers to discover magnetic tape recorders, used German patents to create machines capable of playing tapes produced by the 3M company. Poniatoff set up a company, Ampex, in Los Angeles. In 1947, Bing Crosby used Ampex machines and 3M tapes to record his network shows. Crosby greatly preferred the sound of his voice on tape to the
same on disc, so much so that he marketed the machines. Soon, radio producers realized the ease with which tapes could be spliced, allowing separate takes to be joined and spurring record companies and radio broadcasters toward adopting tape and abandoning discs as a mastering medium. Another reason for the industry’s move towards tape as a mastering medium was duration. Unlike LPs, which had to be changed approximately every 25 minutes, a tape reel could hold between 45 and 60 minutes of music. This extension of uninterrupted recordable time proved a boon to the recording of long symphonic works, especially opera.

**Compact Discs & Digital Recording**

The roughly 35 years (late 1940s to 1980s) intervening between the public, commercial advent of magnetic recording and the earliest compact disc releases remained largely unmarked by any groundbreaking developments in the recording of music, save for the rise and fall of the eight-track tape, the introduction of stereo and quadraphonic technologies and the rise of the cassette tape format.\(^{14}\) As computer technology made significant advances throughout the 1960s and 1970s, specifically with memory formatting, and the ability to read information read by a laser, engineers experimented with and developed the compact disc. The CD resulted from engineers merging digital technology with disc technology; the grooves became data pieces and the stylus became a laser. Until 1984, when AMS marketed the first digital recording

\(^{14}\) The eight-track and cassette tapes were not formats used for master recordings and thus do not bear influence upon this project. Likewise, stereo and quadraphonic acoustic properties do not affect the timing element of recordings and are therefore of no consequence to this project.
device, the AudioFile, compact discs only stored digitized versions of analogue recordings. The major advantage of storing sound data on a CD as opposed to an LP was duration. On an early CD, up to 60 uninterrupted minutes of material could be held. Further developments have increased that time to 80 minutes for standard discs and 98 minutes for high capacity discs. Not surprisingly, the first companies to abandon LPs for compact discs were those specializing in classical music. Typically, classical music recordings were viewed by recording companies as entities for the eccentric few, adding a “pleasant gloss on the companies’ image as long as they did not make a loss.”\(^{15}\) This turned, briefly, into a security blanket for record companies when the sales of rock music were unpredictable. *Opera News*, in 1989, declared that, because of the volatility of rock music popularity (sales) and the agelessness and steadiness of classical music, classical CDs had a “profit margin that would make even arms dealers envious.”\(^{16}\)

**Summary**

The course of recording history has been a mighty progression from Edison’s tinfoil and wax cylinders, through Berliner’s discs, LPs, magnetic recordings, and digital transcription. From the 90 seconds available on the earliest cylinders to the 80 minutes available on a CD, each progressive step has provided a greater amount of recordable space, and, with further development of each new technology, higher fidelity. In the following chapters, I will first discuss the various forms of recording environment and

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\(^{15}\) Gronow and Saunio, p. 194.  
\(^{16}\) Ibid.
then how the technologies and circumstances of recording have affected performance practices.
CHAPTER II
ENVIRONMENTS OF RECORDING

As the technologies discussed in the previous chapter evolved, so too did the types of music material recorded and the environments in which recordings were made. Except in certain circumstances, nearly all recordings sold prior to 1930 were of short numbers or short excerpts of longer works, in which category I include complete arias from operas. This is the direct result of the limitations of the technology, as only two to four minutes could be recorded on cylinder or early disc. The performer most associated with high volume sales, and thus responsible for launching the industry, is Enrico Caruso. With the sale of one million copies of a two-minute recording in 1904, Caruso established the phonograph as “a respectable form of diversion.” ¹⁷ Even as technological developments advanced and the recordable time expanded, classical miniatures and excerpts still held a corner of the market, sharing it with the more expansive realm of short popular, jazz, and ragtime items, and the very small portion dedicated to multi-disc recordings of full symphonies and operas. Even after greater platter diameters and more tightly spaced grooves enabled longer sections of music to be recorded without interruption, record companies were still reluctant to release complete or extended sections of operas. See below for examples.

¹⁷ Chanan, p. 5.

Recordings of Arias Excerpted
For the purposes of this study, the earlier 78rpm miniature or excerpt and the later track taken from an LP compilation album will be viewed as equivalent, because their recording circumstances were largely identical. Each was recorded independently from its respective opera, and was made in a venue other than that of live stage performance; the most common place being the recording studio. At the moment of recording they lacked dramatic precursor or subsequent impetus.\textsuperscript{18}

**Complete Studio Recordings**

For the purposes of this study, the designation full-length studio recording is applied to any recording that is neither a free-standing single or in a compilation album, thereby representing recording circumstances representing full continuity of dramatic action.\textsuperscript{19}

Giuseppe Verdi’s *Ernani* was the first completely recorded opera. When HMV made it in 1903, it required forty one-sided discs at roughly 3½ minutes per side.\textsuperscript{20} The first complete recording of a Puccini opera came from HMV in 1919 with *La Bohème*, featuring a partial double casting of Vincenzo Bettoni and G. Tisci Rubini as Colline under the baton of early Puccini recording maestro Carlo Sabajno. It required 30 12-inch sides, at 4 to 4 1/2 minutes per side. By the time this recording emerged, there had been

\textsuperscript{18} I have carefully examined the recordings in this study and have, to the best of my knowledge, ensured that each excerpt considered in this category was recorded out of context.\textsuperscript{19} The only “complete” recording dealt with which is not of an entire opera is the 1930 recording of the fourth act of *La Bohème*, conducted by Thomas Beecham.\textsuperscript{20} This recording was presumably made on 10-inch discs, though this detail remains unclear.
at least 325 recordings of excerpts from *La Bohéme*.\(^2\) The 1928 recording of *La Bohéme*, also conducted by Sabajno, comprises 26 sides.

The music here had to be fitted onto the limited space of each disc side in turn. Unlike the single release, where the engineer’s responsibility was coordinating with the performer to capture one or more short items onto the disc, the recording of a complete opera in the 78rpm era required a complex coordination between engineer and performers. In order to fill each side as much as possible while avoiding awkward transitions between sides, or forcing the highly unpopular splitting of an aria, careful consideration and consultation of the score had to be made by the engineers and the conductor. With 12-inch 78rpm discs, cutting the opera into 4 to 4 1/2 minute chunks, was required for each complete recording. Though some variance in the placement of cuts occurs in different recordings of the same opera, when compared across the gamut of recordings, most cuts are within a few measures of each other. Cutting and pacing the music to fit within the allotted duration of the disc was crucial to this technique. Cuts and tempo distortion are a fact of life in the 78rpm era.

With the development of long-playing records, the task of recording an entire opera became both less and more complicated. While more material could be placed on each side (up to 30 minutes or so), thereby reducing the number of discs needed to record a large-scale work, the planning became more complex in instances where one side could accommodate all but a few minutes of an integral scene or act. As the recording of complete works on LP emerged in the middle of the twentieth century, many

\(^2\) Eugenio Gara, *Carteggi Pucciniani* (Milan: Ricordi, 1958). At least 325 recordings are listed in this source. Because of the publication date of this work, the number of recordings of excerpts from *La Bohéme* cited is lower than actual, as other early recordings have been discovered in the last fifty years.
recordings were made with such caution that any sense of the opera’s action being broken comes only from having to turn the record.

Cuts were still an option, but long-range planning of tempo could solve the problem, at the cost again of distorting the pacing from that of an unconstrained stage performance. Nearly equal duration on both sides of discs, either 78rpm or long-playing, was a subsidiary but not inconsequential additional goal of the record engineers. This became especially important as greater numbers of complete recordings became commercially available. With tape and digital master recordings, the ability to record entire acts, scenes, or movements existed, largely eliminating the possibility of a large scale discrepancy in duration between sides of the LP. Only with reel-to-reel tape, compact disc, and DVD are undivided and unconstrained performances possible to capture without compromise.

Recordings of Staged Performances

Until disc and cylinder sales skyrocketed in the early twentieth century, musical culture was defined by live performance and the score. Because the vast majority of early recordings (both excerpts and complete) were created in the studio, the number of available studio recordings greatly outnumbers the number of available live recordings prior to 1940. This has consequences for how we regard recordings. Though the majority of listening has shifted locale from being in the presence of performers in full view to living rooms, cars, offices, and headphones, the ideal musical experience for performer and attendee, especially with regard to opera, occurs in the concert hall or opera house.\textsuperscript{22} Unless the listener is one of the relatively small group of people who know a work well, i.e. – performers, conductors, scholars, and

\textsuperscript{22} See Davies, pp. 295-307. Here, Davies dedicates considerable time to discussing the opacity of recordings and the transparency of performance in \textit{Musical Works and Performance} (2001).
aficionados, that person is at a disadvantage in assessing the performance. The cause of this
disadvantage is distance, from performers and performances. What is it that makes the concert
performance experience so much more special than listening to recordings in private? Assessing
a performance, particularly of a Puccini opera, is largely dependent upon the theatricality of the
performance. It is impossible to gauge the musical and dramatic effectiveness of opera without
witnessing all of its elements. Furthermore, concert performance has nearly always been the
ultimate artistic test for performers.

Attending a performance of an opera is an experience that combines at least three, often
four, and occasionally, all of the five senses. Drama provides aural and visual stimulation. The
house provides stimulation of touch by means of temperature, space, and seat. More common in
ages past, but still extant in the form of the dinner theater, opera houses sometimes provide food
during the performance, and refreshments are almost always available during intermission.\(^\text{23}\)
These non-musical stimuli play a role in each experience, first or fiftieth. Obviously, some of these
are sideshows to the main experience. Without them the opera would still go on and (hopefully)
move at least some of the audience.\(^\text{24}\) Just as concert performances are different from
“performances” in the studio, so too are the recordings made therein.

Stage performance precisely places the burden of interest where it should be, on the
dramatic aspects. For the newcomer, it seems as if all the performers need do is execute the
score with precision and dramatic conviction and the attendee will have likely have a fresh and
dynamic experience with the opera. For the seasoned attendee already familiar with the opera,
unless the drama is fresh and alive, performances can seem dead, lackluster, or stale. If the
performers are aware of this aspect of their performance and interaction with the audience, it is in

\(^{23}\) While these elements are easily enough available in private, what is lacking is the
element of the communal. For many performers, the experience of recording, especially in the
acoustic era, is unpleasant.

\(^{24}\) Though opera has changed dynamically in its 400 year history with regard to subject
matter, musical style, and audience, moving the audience remains its unchanged power and
purpose.
the sense of maintaining vitality and preventing staleness in the production.\footnote{25} In either case, the vitality aspect is critical, and is a major aesthetic advantage of concert performances over any recording, whether made live or in the studio.

Staged performances ought not to be aimed only at technical perfection, though now many are near this mark, but rather they ought to aimed at making music that is alive and has the ability to be transcendental while maintain the highest degree of technical proficiency.\footnote{26} By transcendental, I mean that a performance moves or enlightens at least some of the audience, who may be unaware of the specifics of the cause, emotionally, mentally, and/or spiritually. I believe that this sense of vitality is what enables performances to be transcendental experiences for some. Not every audience member will react in the same way to every performance. The diversity amongst different productions lends itself to creating new and fresh vitality.\footnote{27}

A studio recording is not a direct, or even, sufficient substitute for concert performance. The closest one can get to this without actually being present in the opera house is listening to or watching a live broadcast, such as those aired by the Metropolitan Opera or the San Francisco Opera. By their very nature, concert performances and live broadcasts occur in the present moment and are therefore fleeting. A third category of recordings considered in this study is recordings of staged performances or their broadcasts. They include recordings of the complete work, as well as recordings that are only of a segment of such a performance.\footnote{28} In both cases, the purpose of the performance was not primarily to capture it for posterity, but the live creation of art in the presence of an audience.

\textbf{Recordings of Recital Performance}

\footnote{25} This is one critical aspect of pedagogy, and one in which many, myself included, were fervently taught.  
\footnote{26} Davies, pp. 304-5.  
\footnote{27} Davies, p. 310.  
\footnote{28} Only one recording in this study falls under the latter category. Lionel Mapleson recorded cylinder-length sections of operas performed at the dawn of the twentieth century during productions at the Metropolitan Opera. These are perhaps the most famous recordings of live performances, and the inclusion of a portion of \textit{Vissi d'arte} is very fortunate.
There exists a fourth category of recorded performances of opera that is actually an amalgamation of live and studio conditions: the recorded recital performance. Because these are concert performances, the impetus to fit the music to the requirements of recording technology is nonexistent. But because they are excerpts of operas taken out of the context of their surrounding dramatic implications, they are distinctly different from a recording of an aria supported by the rest of the opera. The recital context grants both a freedom and responsibility to the performer. In order to allow the aria to stand apart from the opera, a conclusion not found in the score is frequently added by editors or performers. In so doing, the aria becomes a song, capable of standing alone, and it is then not the aria as one would hear it in a concert performance.

As only a few recordings of recitals are in circulation, this was not a main area of interest in this study, but it is a valuable one in understanding how performers approach different types of music making. In the next chapter, I will examine and critique some of the commonly held conceptions regarding technology’s effects upon performance: concert vs. studio and excerpted vs. whole.
CHAPTER III

PHONOGRAM EFFECTS

The successive types of recording industry technology have each affected musical performance, and many of their influences have been discussed and weighed. In the study of performance practice of opera, with particular regard to Puccini, there remains, however, an area whose relationship to recording and playback technology has been at best only partially traced. The area of which I speak is tempo, which affects duration and pacing. In addition to the different media and circumstances of recordings influence upon the practices captured on record, some influences, such as heightened technical execution, have found their way into performance. Along side of beneficial influences such as this, one alarming influence appears to have developed over the course of aurally recorded music history. This trend is that, at least with tempi, recordings made in the studio are slowing, and that slowing is surely influencing some live performances. What follows is an examination of the various views of the recording process by performers and critics, the role of performers, listeners, and recording engineers in the creation of a recording, the understood effects of recording technology, and the consideration of previously under-considered effects.

29 Mei Zhong’s work in this area, Tempo in the Soprano Arias of Puccini’s La Bohème, Tosca, and Madama Butterfly (Lewiston, NY: The Edwin Mellen Press, 2002), examines the arias in these works. In this work, she works only with the tempi of various early recordings and does not discuss possible determining factors for tempo choices. The only other source regarding tempo practices in Puccini arias comes from the notes of accompanist and musical coach Luigi Ricci, who worked with Puccini c. 1910-1920. His work, Puccini Interprete di se Stesso (Milan: Casa Ricordi, 1954), is an objective record of performance practices observed during the time he worked with Puccini.
Philosophically speaking, I will take the view that recordings are not themselves performances, but rather are representations of past performances. Each time a recording is played, the performers are not going on stage and recreating the work anew; their one time act of performing has been preserved. This is analogous to dinosaur fossils. The petrified bones are representations of the dinosaur, but not the actual dinosaur as they lack skin, organs, and other tissues. Performances are like the dinosaur, living and breathing in their respective moment in the past. Recordings are akin to the reconstruction of the fossils or making of mannequins. They represent the dinosaurs or appear like them, but are not because they lack life; they have already happened and cannot be brought back to life.

What I mean by performance needs clarification. A performance must be live and in front of an audience. When music is learned and taken into rehearsal, the audience is not present. Even the dress rehearsal, which is often technically and artistically the nearest to what happens during the performance, is not a performance if there is no audience for whom the musicians make music or to whom they communicate. In the recording studio, musicians are communicating to a microphone, not performing per se. Glenn Gould’s position is relevant here:

There are performers – of whom Glenn Gould was perhaps the most widely known representative – who insist that recording is quite different from performance, that editing allows the creation of something that cannot be achieved live, and that recordings must be understood as distinct manifestations of music.

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30 I would also argue that even though many dress rehearsals have some manner of audience, these occurrences are not the same as performances because they are not the moment of performance, when no stopping, rehearsing, or error correction occurs, but the music is presented to the audience in a real-time, “one-shot-deal” fashion.

31 Rink, p. 187.
Gould’s analysis is clear: music made, recorded, and edited in the studio in the time of multiple takes and subsequent manipulation, and in the absence of an audience, is not performance. Even though for half of all recorded ‘recording’ history no editing was possible, multiple takes were an available option, thus lessening the risky immediacy that is present in live performance. Still, some recording companies, such as the British company Nimbus, which specializes in the re-release of early single take records, “testify to the view that recordings should be like performances, just as many performers will assert that in a studio they are trying to record a performance.” This seems an interested party’s special pleading for the validity of recordings, specifically as performances. Glenn Gould’s view seems more valid to me, particularly for those recordings made in the age of manipulation of multiple takes to create the master, and considering that he made his living as a studio recording artist and not in live performance.

The pre-tape-editing, single take, recordings may seem to represent a philosophical gray area with regard to their validity as performances. If, as Nimbus purports, the performers were attempting to record a performance on record as they would have given in the presence of an audience, then the act of music making in the studio is more akin to that of a live performance. If however, the performer was aware of the possibility of the interminable repetition of their music making and adjusted even a little, then their recording is nebulous, somewhere between live performance and Gould’s studio scenario. Regardless, these recordings were not made in the presence of an audience and the sense of risk and communication is absent, they are therefore, in my view, like all studio recordings, not performances.

32 Ibid.
The Place of Recordings in Music

These issues raise a question for performers who listen to recordings: what value does examining performance practice by way of recordings have?

In answer to this question, Mark Katz posits that recordings have documentary value in that they preserve the performance practices of different musicians in different times. Upon this, however, he places a caveat. Recorded sound is mediated sound. Being mediated through different forms of technology, recorded sound captures performance practices and habits that were adapted by the performers in order to accommodate the various recording media. Stephen Davies addresses this point by asserting that despite the best efforts of the recording industry and recording artists, even if a recording is made of a live performance, the degree of performance practice authenticity is “thin,” and to be taken with the proverbial grain of salt. Furthermore, performance practices should not mimic what another performer has done, but should be carefully thought out to be in line with and illuminate the aesthetic of the drama. They should be made according to the information available at the time of performance,

33 Some composers have also adapted the writing of their music to fit the restrictions of the recording technology. The most blatant example of this is Igor Stravinsky’s Serenade for Piano, written so that each of the four movements would fit on one side of a ten-inch 78rpm disc. Stravinsky’s account of this is revealing, “In America I had arranged with a gramophone firm to make records of some of my music...This suggested the idea that I should compose something whose length should be determined by the capacity of the record.” – Mark Katz, Capturing Sound (Los Angeles: University of California Press, 2004), pp. 2-3.

While not an example of fitting musical performance to the media, Stravinsky’s experience is one of adapting musical creation, of which both composition and performance are activities, to the medium. This effect is due to the technological limitations of the respective media.

namely written performing traditions, the score, libretto, and any other instructions left by
the composer. Recordings, as the following chapters will show, are troublesome at best
and sometimes directly contradictory to all indications regarding tempo.

A widely recognized effect upon performer behavior is the improvement of
technical execution of music. Charles Hamm asserts that the contrast between
performers trained prior to the recording era and performers trained since the advent of
the recording era is startling, and assigns the cause to recording.

The infinite repeatability of a single recorded performance has forced a
revamping of performance standards and practices. Recordings are actually
responsible for influencing live performance and promoting a higher level of
musical technique. The mistake that may be unnoticeable and unimportant in live
performance becomes unbearable upon repeated playings of a record. The
performer is always under pressure before live audiences to equal the quality of
recordings. The standard for performances today has become technical
perfection – a minimum of mistakes, precise rhythms, and an avoidance of
mannerisms. Most performers today pursue this goal, not necessarily to sell
records – the majority of them still do not make recordings – but as the prevailing
ideal of performance.35

Hamm’s accusation that the standard for performance is technical perfection is
alarming. If all performances were intended to be technically perfect according to the
score or another standard, then all would be the same. Sameness, in light of the
preceding discussion, is a quality unique to recordings that renders them incapable of
being performances.

Differences Between Concert & Studio Recordings

35 Charles Hamm, Bruno Nettl, and Ronald Byrnside, Contemporary Music and Music
The absence of the audience is one fundamental difference between a performance and music created in a studio setting. The goal of live performance is to create immediate music that is inventive and dynamic. Music is created and recorded in the studio for the purpose of being listened and re-listened to, which is enough inspiration to strive for technical perfection. Alfred Brendel, in his piece, “A Case for Live Recordings,” argues that performers approach the concert and studio differently.

In a concert one plays just once, in the studio several times if necessary. In a concert you must convince the audience at once; in the studio it is the accumulated result that counts... In a concert the performer must get to the end of the piece without a chance to make corrections. In the studio he can make corrections, learn while he records and get rid of nerves. The player before the public must do four things at the same time: he must imagine the performance, play it, project it and listen to it. In the studio he has the opportunity to hear it again after playing, and to react accordingly. In a concert, it is the broad sweep that counts. The studio demands control over a mosaic; while it offers the performer the possibility of gradually loosening up, there is also the danger of diminishing freshness. And there is the painful business of choosing between takes. When playing before the public, details must be projected to the furthest ends of the auditorium, just as the whispers of an actor must be heard throughout the theatre. In front of the microphone one tries, on the contrary, to get away from exaggerations and aims for an interpretation that will bear frequent hearing. In the concert hall the concentration of the audience brings about a mutual influence between the performer and his listeners. In the studio nobody has to be conquered – but there is nobody to disturb you. The player sits as though in a tomb. A fit of coughing or the chirping of the alarm on a watch may break the spell of the most delicate moment of the concert. The studio offers silence. Weaknesses in a concert performance tend to result from spontaneity, from a break in concentration or from nervous pressure. In the studio they may have their roots in excessive critical awareness. The ability to convince the public in the concert hall is quite independent of absolute perfection. The studio is ruled by the aesthetics of compulsive cleanliness.\[36\]

\[36\] Davies, p. 309.
Brendel's argument has considerable truth and applicability, reinforcing points I have made above. He encapsulates the differences in purpose of concert and studio as manifested by performer attitude and mannerism. He also attests to the aesthetic risks in both kinds of environment. Live performances are obviously not subject to the constraints of the recording media, thus leaving most, if not all, performance practices solely to the discretion of the performers. In the studio, prior to the development of technology that would allow the recording of a full movement or act, performers were slave to the constraints of the media. The role of the engineer was, in part, to enforce the observation of these constraints. With magnetic tape and digital recording technologies, performers do not have to conform the tempo to fit an allotted duration.37

Brendel's assertion that “in front of the microphone one tries…to get away from exaggerations,” may be true for the present day, but does not apply to the earliest recordings. Classical musicians up through the 1930s played in the studio as much as possible as if in concert, while that contemporary musicians take the opposite approach. Thus, “There is more variability and personality in the playing found in the earliest recordings.”38 In other words, recording artists were bringing stage practices and habits into the recording studio. Still, the performer in the 1930s and before was by no means wholly free from external constraints. To say that the earliest recordings do in fact have the most individuality is not, however, to say that they entirely mirror live performances. The complexities of the relationship between performer and recorded sound document are not to be underestimated, and will be discussed further below.

37 In order to compensate for length with opera recordings, only enough tape to record one or two acts was required, as the reverse side would be used to record the remaining acts. For Puccini, whose operas seldom go more than three hours, division of acts for the purpose of tape recording is not an issue.
38 Davies, p. 309.
What many fail to acknowledge is the active role of the recording engineers. That recordings represent a collaboration between musicians, machines, and engineers (who may know nothing of the music being recorded) is never to be overlooked.

**Phonograph Effects Examined**

Robert Philip’s books *Early Recordings and Musical Style* and *Performing Music in the Age of Recording* go into great detail documenting the evolving performance practices of the twentieth century in instrumental and vocal music. Three aspects of performance practice (in addition to the cleanliness of technical execution) that have changed, in part, because of recording technology, and whose changes are evidenced by recordings are vibrato, portamento, and rubato. Superscript 39 In general, the use of vibrato in the twentieth century in instrumental and vocal performance increased, changing the status of vibrato from a topical affective device, used for occasionally expressing a heightened emotion, to a widespread and more constant and uniform device whose purpose was to warm and stabilize the tone. The employment of portamento and rubato as affective devices, on the other hand, has largely declined since the early part of the twentieth century. Early in the century, both of these devices tended to be applied liberally at the

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whim of the performer, but today, portamento is nearly extinct while rubato is typically tightly controlled. All three changes, Philip argues, are due to familiarity with recordings.

In both books, Philip’s primary assertion regarding the effects of early recordings upon tempo is that it was entirely acceptable to hasten the performance speed of long movements or sections in order to fit the music on as few sides as possible. It was also acceptable to cut scores at the most desirable places. These practices are entirely the result of the limited duration of early cylinders and discs.

**Effects Upon Tempo**

During and since the age of the 78rpm record, many recorded tempi have gradually slowed. It was also, contrariwise, sometimes necessary to quicken the tempo so as to enable the recorded performance to fit on both 78rpm and long-playing discs appropriately. Not every performer and/or recording engineer bought into “quickening.” Rather than increasing the tempo, a school of thought developed in which performers would rather cut music in order to fit it on the side of a disc. This approach is rooted in the belief that it is more important to perform the music at the given tempo than to perform all of the music.\(^\text{40}\) It is a mentality that has survived to the present day in some recordings. In either case, the practices of hastening and cutting represent coping mechanisms employed by performers as reactions to the dictates of engineers and the limitations of the technology. Both increasing tempi and cutting music were done in order

\(^{40}\) Katz, pp. 34-5.
to make the most economical use of disc space. Wasting disc space was a maligned practice that was to be avoided at any cost.

The public, at least the reviewing public, seems to have been, at least to a certain extent, aware of this relationship between engineer, performer, and disc. In 1923, Maurice Ravel conducted a recording of his *Introduction and Allegro* that lasted a mere 9 1/2 minutes, considerably shorter than later recordings, many of which average between 11 1/2 and 12 minutes. Despite initial assumptions that Ravel’s haste was on account of the need to fit the music onto three sides of ten-inch 78rpm discs (which hold 3 to 3 1/2 minutes per side), in fact the discs released were twelve inches, capable of holding 4 to 4 1/2 minutes per side, easily granting Ravel more than enough time to take a slower tempo. That this recording had unused space met with great disdain from a reviewer in the magazine *Gramophone*, who complained, “Surely it was not necessary to leave such large unused spaces on the records – why not have had two 10-inch discs? This is a very flagrant instance of waste.”

Recording companies appear to have taken note, and later recordings were squeezed onto three sides of 12-inch discs with a different piece of music filling the remaining space, or were fitted to four sides of 10-inch discs. The lesson here is the high value placed on economy in the recording industry. As later discussion will show, this deeply influenced recording practices with regard to *Vecchia zimarra* from Puccini’s *La Bohéme*.

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42 In popular music, some performers feel that recording engineers, regardless of motivations, exercised their power to the detriment of their music. Billy Joel’s song, *The Entertainer*, takes a jab at the mandates of the studio to keep his song around three minutes to be radio friendly.

It was a beautiful song, but it ran too long
Singles

In the discussion that follows, I will use “single” as shorthand for a recorded selection that fills all or part of one cylinder or one side of a 78rpm disc. A single is a complete, integral work, though it may be an excerpt of a longer composition – e.g. an aria from an opera, a movement from a symphony, etc. While the process of singles recording varied between companies and artists, it usually followed the same general course of events. The following description specifically concerns singles recording in the acoustic era (pre 1925).

The room was usually small, windowless, and empty, save for a large megaphone-shaped horn and a small red light or perhaps a buzzer attached to one wall. No vast stage, no ornate hall, no warm applause greeted the performer’s entrance into this, a typical early twentieth century recording studio. A session began not with a performance, but with a series of tests. These tests established the type of recording horn and stylus to be used, the optimal distance between performer and horn, and the dynamic range allowed by the equipment. When all the tests were complete, the performance could start, but not at the artist's discretion. The red light would flash, the buzzer would sound, or an engineer would gesture and the performer would begin. During the performance, musicians had to be careful not to make extraneous, recordable noises, not to gesture unduly (lest they knock the equipment over), and not to sing or play too loudly or too softly. After the performance was finished, total silence was

If you’re gonna get a hit you gotta make it fit

So they cut it down to 3:05.
In essence, performers had to conform precisely to the mandates of the technology and the engineers with regard to deportment and actions in the studio. It is easy to see that performers did not have anywhere near the same freedom as on the concert stage with regard to the pacing of the music they were recording. If the performers took the tempo even slightly too slowly, they could overrun the allotted time, ruin the recording, and have to do another take. If they were too brisk and left too much empty space at the end, they could suffer the consequences imposed by the recording company, reviews, or the marketplace.

When operatic arias and excerpts were put onto disc, typically only one aria would fit per side, and then only if it were relatively short. Given the great variability in aria durations (just over 1 minute to 15 minutes or more), it is the exception, not the rule, that an aria encompasses no more or less than one full cylinder or 78rpm disc. It frequently occurred that the first selection would not entirely fill the side of the disc, or would need more than one, but not all of the second. Instead of using a smaller disc or drastically cutting the music, a second selection was chosen to fill the remaining space.

It has been well documented that sometimes the recording engineer would compress the performance time, either by increasing tempi or cutting the

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43 Katz, p. 37
44 Whether 7", 10" or 12".
45 The recordings of *Vecchia zimarra* by Jose Mardones, Andres de Segurola, Enzo Bozano, and probably most of the early recordings of this aria, were recorded on discs where they were not the only track.
music, in order to fit on fewer disc sides.\textsuperscript{46} It is not at all unreasonable to presume that, especially with the smaller disc sizes and cylinders, recording engineers also demanded the opposite effect, the expansion of performance time, in order to leave as little blank space on the disc as possible. The discussion in Part 2 on Vecchia zimarra, from Puccini’s La Bohéme, will demonstrate evidence in support of the latter hypothesis.

Singles are two levels removed from live performance. First, they are made in the studio, and second, they are made outside of the musical and dramatic context of a full-length studio reading. Without the context of the entire work surrounding these excerpts, performers often felt, and to some degree still do feel led to heighten the emotion through performance practices by intensifying, sometimes to the point of exaggeration: dynamics, tempo, rubato, and declamation to allow vividly the excerpt to stand on its own apart from the drama.

“Records lifted great voices out of their original dramatic context, and carried a disembodied vocal music into American living rooms.”\textsuperscript{47} In order to compensate for lack of the musical, dramatic, and visual contexts in which operatic excerpts occurred, Victor published the Victor Book of the Opera, regularly enabling opera fans to learn about the larger context from which excerpts were wrenched.\textsuperscript{48} The Victor Book of the Opera did not have as wide a dissemination as the records, and it did not include the libretto, but rather just a plot synopsis. For the many who did not know the libretto, the phonograph led

\textsuperscript{46} See Philip, Performing Music in the Age of Recording, pp. 35-8, and Katz Capturing Sound, pp. 22-3, 34-5.
\textsuperscript{47} William Howland Kenney, Recorded Music in American Life (Oxford: Oxford University Press, 1999), pp. 94-5.
\textsuperscript{48} Ibid.
listeners of records to focus on the singing voice and not the dramatic implications of the musical moment.\textsuperscript{49}

\textbf{Full-Length Studio Recordings}

Full-length recordings preserve for both performers and listeners the musical context in which the arias exist. Yet they can never be fully equivalent to a live performance. Still, preferences for live performance or recording (whether made in the studio or on the stage) vary among listeners. A notable, and yet surprising proponent of the value of opera recordings is Theodor Adorno.\textsuperscript{50} In his 1969 article, “Opera and the Long-Playing Record,” Adorno laments the modernization of traditional operas, whose productions are created “with new sets and new stagings – at the expense of their substance.”\textsuperscript{51} Given this deadly modernizing penchant, he uncharacteristically argues that the LP was the \textit{deus ex machina} that would save opera from demise.

Shorn of phony hoopla, the LP simultaneously frees itself from the capriciousness of fake opera festivals. It allows for the optimal presentation of music, enabling it to recapture some of the force and intensity that had been worn threadbare in the opera houses. Objectification, that is, a concentration on music as the true object of opera, may be linked to a perception that is comparable to reading, to the immersion in a text. This offers an alternative to that which opera does in the best case – and which is just what great artwork ought not do – that is: cajole the listener... The ability to repeat long-playing records, as well as parts of them, fosters a familiarity which is hardly afforded by the ritual of performance. Such records allow themselves to be possessed just as previously one possessed art-prints. But there remains hardly any means other than possession, other than reification, through which one can get at anything unmediated in this world – and in art as well. One of the essential properties of

\textsuperscript{49} Ibid. Aria specific dramatic ramifications will be discussed in the following chapters dedicated to each aria.

\textsuperscript{50} Adorno’s writings are notoriously hostile towards recordings except for those coming late in his life and those regarding opera.

opera...is long temporal duration. LPs provide the opportunity – more perfectly than the supposedly live performance – to recreate without disturbance the temporal dimension essential to opera.  

Adorno’s argument applies to specific instances of sensationalism. His application of it to all recordings of opera is inherently flawed. The first and most glaring flaw is Adorno’s assertion that opera, at least in 1969, was best served if it remained a purely aural enterprise. While some musicians, Glenn Gould among them, prefer to perform only in the studio, many prefer the stage as it offers two things the studio never can: immediacy and an audience. Furthermore, most opera fans prefer being present in the opera house, where they see the opera in the moment, to being visually removed from the experience. Additionally, Adorno claims that visual communication has no beneficial value in modern opera productions. What he fails to acknowledge is that performers are aware of their performance space and adjust accordingly. This is one tangible difference between live and studio recording circumstances.

These differences extend even to audience reaction. Audience awareness of the nature of a recording affects how it is received. “Typically, one listens to a recording with the expectation of hearing it again – with an awareness of the reproducibility of its content – and this inevitably affects how one experiences and evaluates it. Records are lived with (are taken to desert islands) in a way that live performances cannot be.”

Because in a recording the same moments can be revisited ad nauseam, it cannot be alive in the same sense as performances. It never changes. Returning to the opera house on consecutive

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52 Ibid., pp. 284-5.
53 Davies, p. 304.
nights will not result in a listener hearing exactly the same performance, the way that returning to a recording does.

If a recording’s instructive value is taken to an extreme, the result is that performers first learn by rote only, i.e. – copying what other performers have recorded, regardless of indications in the score, libretto, or other supplementary material provided by the composer or those with whom he or she worked directly. This is not, by the way, to discount the manner in which many singers learn, by repetition, but to discount blind copying of what other performers are doing or have done.

Composer Roger Sessions has a particularly pointed view on the problem of repeated hearings of a recording.

[A recording] ceases to have interest for us, however, the instant we become aware of the fact of literal repetition, of mechanical reproduction – when we know and can anticipate how a given phrase is to be modeled, exactly how long a given fermata is to be held, exactly what quality or accent of articulation, of acceleration or retard, will occur at a given moment. When the music ceases to be fresh for us in this sense, it ceases to be alive, and we can say in the most real sense that it ceases to be music.\(^{54}\)

Sessions is not disavowing any value that recordings have. Rather, he is concerned with the fact that, at some point, recordings cease to have interest because they are the same every time. Sessions’ objection attacks the heart of Adorno’s point. Where Adorno prefers opera recordings because their repeatability and invisibility offer a somehow purer experience with the music, Sessions claims that these same traits cannot sustain a sense of freshness in the music, resulting in its death. Sessions and Adorno seem to be polar opposites,

\(^{54}\) Ibid., p. 305.
claiming that recordings are analogous to fossils one on hand and art prints on the other.

Ambivalence over the recording studio extends to performers as well. French soprano Régine Crespin expressed a deep dismay for the isolation of studio recording.

Fear of an audience is healthy; it stimulates you. The people are there in front of you. With them there can only be mutual lovefests. But how can you fall in love with a microphone? First of all, a microphone is ugly. It’s a cold, steel impersonal thing, suspended above your head or resting on a pole just in front of your nose. And if it defies you, like HAL the computer in Stanley Kubrick’s film 2001: A Space Odyssey at least he talked. No, the microphone waits, unpitying, insensitive and ultrasonic at the same time, and when it speaks, it’s to repeat everything you’ve said word for word. The beast.55

Crespin’s hostility does not necessarily extend to recordings made of live performance. If there is a concert audience present with whom she could have a ‘lovefest’ (which can only happen in a live performance), it appears that this relationship would supersede any animosity toward the microphone.56

Motivations in the Studio

The omission of the visual aspect in studio recordings of opera affects how performers approach its creation. Opera is one of the two most visual musical performance genres, the other being ballet. Therefore, the effects visual communication between audience and performer in a less visual form, e.g. – the symphony or concerto, can only amplified when considered for opera (or ballet).

55 Katz, p. 23.
56 Even though audiences can be present in the recording studio, performers are not making music primarily for them, but for the microphone. Also, the risk associated with the one-shot-deal atmosphere of concert performance is absent.
The following examples consider instrumental music and the dynamic impact of the visual upon its reception by listeners. Igor Stravinsky was among the first to cite one of the two major differences between live performance and studio recording for the listener: the visual link between performer and audience. “The sight of the gestures and movements of the various parts of the body producing the music is fundamentally necessary if it is to be grasped in all its fullness.”

Itzhak Perlman, hailed for revealing every expressive nuance in the music in his face, echoes Stravinsky, “People only half listen to you when you play – the other half is watching.”

What both Stravinsky and Perlman recognize here is the all-important visual aspect of musical communication. If visual communication with an audience is so critical in a symphony, concerto, or chamber work, its importance to opera can only be more profound. For many musicians, the loss of the audiences creates a vacuum in place of the visual communication channel, which is most often detrimental. In order to compensate for this loss, the musician must then somehow compensate. One author who scolded Heifetz for an apparent lack of humanity in person recognized that the invisibility of the recording studio uncharacteristically enhanced Jascha Heifetz’s playing, revealing passion and tenderness. This is not to say, however, that Heifetz

57 Igor Stravinsky, as quoted by Katz, p. 20.
58 Ibid.
59 The notable exception to this is violinist Jascha Heifetz, whose rigid posture, skyward stare, and stoic demeanor led audiences to characterize his concert performances as technically accurate, but emotionally austere. “Cold, calm, dispassionate, he stands on the platform and performs miracles of dexterity, displays his beauties of tone; but do we not feel slightly chilled, anxious perhaps for less mastery and more humanity?” Such was the reaction of the author of a 1925 article on his playing; Heifetz’s playing was clearly overwhelmed by his visual demeanor. – Katz, pp. 20-21.
60 Katz, pp. 20-21.
played differently in these situations, but that the visual aspects of his performance played a dynamic role in the reception of his playing.

The impact that the presence or absence of the visual has upon sound is known as the McGurk effect. In 1976, psychologists Harry McGurk and John MacDonald ran an experiment in which they showed a video of a woman speaking syllables over which they had dubbed the sounds of different syllables. Those tested could easily identify the syllables when not looking at the video, but when looking, consistently misidentified the sounds. This reinforces what the critic’s remarks about Heifetz reveal: what is seen deeply affects what is heard.61

In 1993, music psychologist Jane Davidson ran a similar test using a video recorded performance, playing the recording three times, video only, audio only, and video and audio together. Subjects who watched the performance, even those who watched without hearing, were the most accurate in assessing the performer’s expressivity. Davidson concluded that “one implication of this study is inescapable: listeners lose a good deal of information about the expressive manner of performances they hear on recordings.”62

The awareness of the visual link with the audience understandably extends to performers. When aware that the performance will take place in the studio, without an audience present, performers often feel compelled to attempt to compensate for the missing visual dimension of performance. Nikolaus Harnoncourt extrapolates upon this bluntly. “If you don’t see the musician – and this is the case with all recordings – you have to add something which somehow makes the process of music making somehow visible in the imagination of the

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61 Ibid., pp. 20-21.
The practices most often employed for the sake of heightening the effect of the music are vibrato, portamento, and tempo rubato, especially in string and frequently in vocal music. Harnoncourt is advocating a livelier rather than safe approach in the recording studio. This is essentially a return to the performance mentality of the early twentieth century where performers approach the studio the same way as they approach the stage. While this typically makes for more interesting music, some believe that a return to this mentality would render studio performances mistake-prone. Furthermore, idiosyncratic performances may captivate once, but irritate after ten hearings.

In effect, some performers, like Nikolaus Harnoncourt, consider creations in the recording studio to be like mannequins or wax models, needing aural cosmetics in order to be aesthetically acceptable (or like actors and actresses, they require “stage make-up”). The most common form of “make-up”, especially at the dawn of the recording era, was the employment of vibrato by string players and shortly thereafter by singers. The earliest recording technologies, those using purely acoustic technology, made it very difficult for the listener to hear especially high frequencies; the application of vibrato produced a pulsation that helped listeners hear, if not the frequencies, then that something was going on that their inner ear often provided.

Also, the use of vibrato on a string instrument provided a margin of error in tuning. Straight-tone string playing requires an inordinate amount of precision, and vibrato, heard as one tone even though it is a window of altered frequencies,
allows a certain amount of imprecision. It was the continual hearings of recordings of out of tune straight-tone string playing on that led to its change from a topical affective device to its eventual implementation of vibrato as a means of achieving in tune string playing. In the early twentieth century, and presumably the latter nineteenth century, vibrato and portamento were effects reserved for special emphasis, and frequently, these were liberally applied in many early recordings. In both the affective and unilateral employment of vibrato, string and voice performers appear to have employed vibrato as a means of coping with the exigencies of recording technology with regard to invisibility and repeatability, respectively.

Conclusion

Recording influences are manifested in human actions. More pointedly, it is “recording and its relationship with its users that determines the impact” upon performance practices. With the advent of recordings, and with changes in its technology have come changes in performance practice that have been influenced or dictated by the technology. On account of this, recording music has, to some extent, created new compositions. “Just as recordings can be spontaneous interpretive acts, their repetition can transform them into compositions, which can be analyzed, historicized, canonized, politicized, and problematized.” These new ‘compositions’ can be differentiated from one another by performance practices of vibrato, portamento, rubato, and time.

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Katz, p. 47.
Ibid.
manipulation (cutting or tempo choices). The new “compositions” that recordings become have made are in fact pieces that stand on their own apart from the works from which they are taken, and are musically and dramatically different.

Recording technologies influence performance practices in the studio. Indeed, modern performance practices have come about due to the act of recording musical performances. The recording engineer, especially at the dawn of the recording era, had an active role most significant in respect to duration via tempo and cuts in the music.

In respect to opera, in live performance, giving life to the drama is paramount and its greatest challenge. Mistakes are either frequently overlooked by the audience or forgiven, provided the drama has life; technical perfection is not the principal goal. In the full-length studio recording, infinite repeatability has, over time and especially since World War II, made technical perfection the primary goal. In the recordings of excerpts, the task is to make each excerpt stand alone apart from its opera as a musical entity. In both types of studio recordings, full and excerpted, the lack of an audience causes performers to compensate in respect to aspects of expression.

The area of performance practice most subject to the effects of the technology is the duration of the work. The duration is determined by the tempo taken by the performers, who would be informed by the recording engineer of the allotted time. With specific regard to tempo, the concern is continuity between discs, while fitting an appropriate amount of music on each side of each disc. It is therefore entirely reasonable to examine recordings to see where performance practices differ in the studio between excerpted selections and entire operas, as
well as comparing these two categories to recordings made during live performances. This kind of analysis will be applied below to four Puccini arias.
Puccini had a reputation of being exacting and demanding with regard to the tempi at which his works were performed. During Puccini's lifetime, many opera companies took a lackadaisical attitude toward the most familiar works. Puccini took a distinctly hostile attitude towards such practices as in the following 1922 reaction of his to the sloppy execution of his music:

All too long we in Italy have fallen into the habit of giving the so-called repertory operas, those which resist time and sloppy performances, in an indecent way: one rehearsal for the orchestra, none for the stage, and away we go, carrying all the foul rubbish with which little by little the abuses and the bad habits of conductors and singers have encrusted the work.⁶⁸

Curiously, this outburst was not provoked by a bad performance. Rather, Puccini was responding to a critic who, having heard a Toscanini-led performance of *Manon Lescaut*, assumed that Puccini had re-orchestrated portions of the work. This was not the reason for the new sounds emanating from the orchestra pit, however. Instead, Toscanini had rehearsed the orchestra, presumably in his notorious dictatorial manner, and the cleanliness of the performance revealed previously unnoticed details. "Arturo Toscanini, with the faith and love which inflame him, grasps the chisel and chips away until the work is revealed to the public with the true intention of the author."⁶⁹ This makes apparent the high level

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of the standard of performance held by Toscanini, and its distance from the sloppy routine so regretted by Puccini.\footnote{Toscanini’s relationship with recording and its influences is an area for further research but is outside the scope of this project.}

In the 1910s, Puccini worked with an accomplished accompanist and vocal coach in many productions of his works. Luigi Ricci, who had also worked closely with Pietro Mascagni, took careful notes on Puccini’s instructions to performers. These general and specific instructions indicate that Puccini was indeed exacting and demanding. Furthermore, these notes are the most direct link to Puccini’s conceptions of the productions of several of his operas. Aside from Puccini’s scores and any indications in letters or transcribed conversations, Ricci’s notes are the most authoritative source of performance practices. They do, however, sometimes contradict Puccini’s scores. Despite these occasional specific contradictions, Ricci’s broad observations-turned-instructions are of the utmost value.

The first order of business in Ricci’s book is the laying out of the \textit{Decalogue of Puccini}. It appears that these are Ricci’s notations of Puccini’s most frequent non-opera specific instruction. They concern tempo, colors of expression, colors of sonorities, fermatas, portamenti, artistic dedication, staging and dramatic atmosphere, the stage curtain, backstage music, and use of bells.\footnote{For more on each of these, see \textit{Appendix A}.} Ricci devotes most of his discussion to Puccini’s precepts on tempi.\footnote{The following paragraphs draw on Ricci, pp. 11-14.} He explains that above all other aspects, Puccini was concerned with how the tempo of the music affected the drama. Puccini had a notoriously acute sensibility with regard to rhythmic movement, as much for the
fundamental or general as for those restrictive or secondary ones. For example, *andante* was Puccini’s expression of his desire for the music to correspond exactly to action, “which is moderate, rather slow, but not too slow.”

Particularly significant are Puccini’s opinions about slow tempi. Puccini’s sense was that too slow a tempo makes the action die, as if drugged, slothful and heavy, like all things dead. Ricci goes on to explain Puccini’s deep phobia of tempi being too slow. “I have heard more than once the cordial voice of Puccini confidentially spur the conductor: ‘Maestro if you fall asleep we all fall asleep.’” Or, “Life, life maestro! Don’t slow down too much. Don’t you sense that this piece is falling apart, that this fragment is crumbling, this other one stagnating?” Perhaps most revealing about Puccini’s sense of pacing, especially with slow tempi, was his statement that “everyone has the right to rest, but music must never nap nor stay barely awake and then fall dead asleep.” Puccini admonishes, “stasis is the negation of music, especially theatrical music. Even a heavy step must have life. The gazelle and the elephant move with motion that is proper for them, but woe if the legs fold and they fall down.”

To give the performer a guard against exaggeration of effect, which to Puccini was a decidedly finite balance of subjective and objective understanding of the music, Puccini provided very specific metronome markings, and Ricci scrupulously checked the score tempi with Puccini “in each of the many performances in which [he] assisted the author.” However, while the indicated markings are obviously important, the development of the melodic and dramatic dimensions had to be given consideration as well. In order to accomplish this, Puccini referred to another metronome, the heart, or “the Maelzel inside us.” And moreover, Puccini asserted that “one cannot write
everything.” It is impossible for a composer to put everything into the score to create a performance identical to what the composer imagined. The performer must feel a great deal, too. Puccini is hinting at a balance between the head (following the score) and the heart (the Maelzel inside us).

Ricci passes on the further warning that the feeling must not be “the result of a common, arbitrary decision, nor come in league with capricious interpreters.” Puccini seems to have had contempt for those who do not go far enough, the half-attempts, and those who go too far, capricious interpreters. If one word can describe Puccini’s understanding of and desire for the performing of his works, Ricci tells us it is equilibrium. “This word presides over all his poetry, over all his aesthetics, over all his art of composition.”

In addition to the metronome indications in his scores, Puccini gives very specific clarification to these tempi. He provides traditional tempo markings, *lento, grave, adagio, largo, larghetto, andante, andantino, moderato, allegretto, allegro, presto*, etc… and invariably adds other descriptive words, “which appear as enlargements or also hints of that which they precede.” Such terms as *allargando, ritardando, stentando, rallentando, accelerando, affrettando, stringendo*, etc., have varying degrees of special importance to him. Finally, the preceding terms are amended by *più, meno, assai, molto più*, and *molto meno*, are then modified a great deal.

Each of the four arias in the following chapter bears multiple indications regarding tempo. For *O mio babbino caro*, Puccini indicated *andantino ingenuo* – with more motion than *andante*, presumably with the youthful energy of an ingénue. For *E*

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74 Ricci, p. 12 – all translations are my own
75 Ricci, p. 11.
**lucevan le stelle**, the indication is *andante lento appassionato molto* – a slow *andante* (since the *lento* follows it) and with utmost passion. *Vissi d’arte* is marked *andante lento appassionato*, again indicating a slow andante. Finally, *Vecchia zimarra* is marked *allegretto moderato e triste* – moderately quick, but not quite march tempo, and yet sad or wistful.

Altogether, Puccini was extraordinarily exacting in his expectations for how his works were to be performed. This is not to say that he expected lock-step uniformity each time one of his operas was produced. What he demanded was the total and active engagement of the performers. Notoriously, his operas can withstand half-attempts and sloppy performances. In the following chapters, I will examine the tempi taken in four arias, *O mio babbino caro* from *Gianni Schicchi*, *Vissi d’arte* and *E lucevan le stelle* from *Tosca*, and *Vecchia zimarra* from *La Bohéme*. I will consider the circumstances under which each was made and note the trends across the chronology of the sampled recordings.
In this chapter, I examine the various recorded tempi of four Puccini arias, *O mio babbino caro* from *Gianni Schicchi*, *E lucevan le stelle* and *Vissi d’arte* from *Tosca*, and *Vecchia zimarra* from *La Bohéme*. For each aria, I have divided the recordings into three categories: the aria in excerpted form (i.e., recorded independently from the opera) the aria from a full-length studio recording, and the aria from a complete live performance. None of the recordings considered here was made of a recital performance. Within each category, I have plotted the arias on scatter graphs with the tempo in beats per minute on the y axis and the date of recording on the x axis. In cases where multiple recordings were made in the same year, I have striven to order them by the months in which the recordings were made. For the graphs where all three categories of recording are included, each series’ chronology is unique to itself; each group is ordered chronologically within itself, but not with respect to the chronologies of the other groupings. Even though each series is arranged chronologically, this project is not concerned with comparing the chronology of the trends, but only the chronological trends in each group. There is no comparison of chronology between data series. Each graph also presents a trend line that is a logarithmic plot generated by Microsoft Excel using the equation: \( y = (c \times \ln(x)) - b \). The logarithmic plotting assists in evening out the scale of years represented by each data series. To have a sense of the rapidity of

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77 \( c: =\text{INDEX}(\text{LINEST}(y,\ln(x)),1) \); \( b: =\text{INDEX}(\text{LINEST}(y,\ln(x)),1,2) \)
change, the first portion of each line (to the point where the slope becomes more linear) is a reasonable estimation. In some instances, distinct outliers appear, and in some cases, their absence would greatly alter the trends. I have included two of these graphs to illustrate this point. The existence of the points outside the norm is not to be discounted or ignored. They are instances of distinct departures from general performance traditions.

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78 Since the data in these three categories does not have much chronological overlap, the math involved in creating a more precise representation is beyond the scope of this project.
The most recognizable aria from Puccini’s only comic opera, Gianni Schicchi’s *O mio babbino caro* is by far the most lighthearted aria in this study. Coming precisely at the midpoint of the opera, Lauretta’s aria is at once an endearment and a plea for help. Puccini removes any doubt about the nature of Lauretta’s character with his indication at the beginning of the aria, *Andantino ingenuo* and a metronome marking of 120 eighth notes per minute. Too slow a tempo here would overemphasize the emotion and tear the dramatic fabric of the work in exaggerated fashion. Such a pacing would change the meaning of the aria from the somewhat capricious plea of “daddy’s little girl” into a serious and desperate imploration whose threat of suicide is very real and immediate. Contrariwise, too quick a tempo will turn the aria into a shallow if pretty tune. The balance of substance and lightheartedness in this aria, as well as its place in a relatively seamless ensemble opera, are defended by William Berger.

Critics insist it was a concession to popular taste, while fans docilely accept it as a concession. It is more than a pretty tune. It is a consciously forthright one as well. The structure draws attention to its formality: \{A, A’, A (in the strings without voice), A’\}. Not even (La) Bohéme, the mother lode of melody, dared such a simple structure for any of its solos. One must turn to the most rudimentary hymnals to find anything analogous. It sets Lauretta apart from everyone else as a pure character, simple, to be sure, and untainted by any “art” or artifice. It is also very obviously old—fashioned, which may at first glance seem a curious choice for the ingénue. It is, in fact, nostalgic, playing on the audience’s nostalgia for youth and youthful delusions of love and for everything that has been swept away (including, perhaps, opera that uses melody). It is the very center of the opera, which alone tells us something. The man who wrote “Senza mamma” could certainly have written something else at this point had he wanted to avoid charges of debasing his art.\(^{79}\)

In my opinion, Berger’s reading of the aria as innocent yet complex nostalgia is both interesting and entirely valid.

If taken strictly in tempo, the 26 measures of this 6/8 aria would encompass one minute and eighteen seconds. One of the most common ranges of tempo for this aria is a bit slower than Puccini’s marking, in the 104-108 range. Taken strictly in this range of tempo, the aria would have a duration of one minute and twenty six seconds to one minute and thirty seconds. The slowest recorded tempo in this study, 63 beats per minute, would require nearly two minutes and twenty-eight seconds. Florence Easton, the role’s creator, recorded the aria with a tempo that hovers around 104 beats per minute, a common choice for excerpted recordings of this aria. Taken strictly at this tempo, this recording has a clock time of 2:05, not including the introduction, and is the result of Easton typically holding the crowning notes of phrases for twice their value (as prescribed in the *Il Decalogo di Puccini*)\(^{80}\) as well as observing the local tempo modifications, such as ritardando and rubando. If taken strictly at this tempo, the resulting duration should be approximately 1:30. Thus, there is an increase of 39% between strict time and recorded time.\(^{81}\)

\(^{80}\) See Appendix A – *Il Decalogo di Puccini*.

\(^{81}\) As the recordings of the other three arias in this study will show, 40% is the standard approximate amount of clock time increase between strict tempo performance (theoretical) and actual recorded time.
Gianni Schicchi premiered in 1918, 22 years after La Bohème and well into the age of recordings, when the 78rpm disc had been developed to its best form. Recording of this aria began in the same year, when Florence Easton, the creator of the role, made a recording with the Aeolian-Vocalion Company. Unlike in the opera, Easton’s recording has an orchestral introduction of the primary theme of the aria immediately preceding the vocal entrance.

Figure 4

Tempo Trends of *O mio babbino caro* Excerpted
As Figure 4 demonstrates, five of the first seven data points in this series, all from recordings of the 78rpm era, hover between the eighth note equaling 104 and 108. Further more, these recordings all include an introduction fashioned from the first four measures of the aria, played without the voice singing, which lasts between fifteen and twenty seconds. At this tempo, and with the respective affective practices and introduction, each recording lasts approximately 2:30, which could conceivably fill the side of a 7” disc, or leave enough room for another item on a 12” disc. Also, At this tempo the aria not slowed to the point of dramatic hyperbole. It is possible that all of these recordings document the decision to add an introduction and slow the tempo to this point, so that the space on a disc or cylinder would be more fully utilized.

As the twentieth century progressed past World War II and the recording media shifted to magnetic tape and long-playing records, represented by data points 8-17, some recordings quicken towards Puccini’s marking, but the tempi in the majority of recordings in this period further decrease, causing the overall trend for the tempo of this aria in excerpted recordings to fall. Finally, the recordings made in the age of digital technology continue the trend of slowing, as fewer tempi are close to Puccini’s indications and most settle around 90 beats per minute.

This trend is not necessarily a lamentable one. Niklaus Harnoncourt’s explanation of performers adding to recordings to compensate for the lack of the visual, cited in the previous section, appears to hold true in this instance. As time has progressed, recording artists have been “adding more” by taking away from
the tempo. This does heighten the affect of the aria and helps it stand on its own, by not being too brief; however, finding this trend in contextualized and concert recordings (especially the latter) would be most alarming.

**Full Length Studio Recordings**

**Figure 5**

<table>
<thead>
<tr>
<th>Tempo Trends in 5 Full-Length Studio Recordings</th>
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<tbody>
<tr>
<td>Recordings, in chronological order</td>
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<tr>
<td>---</td>
</tr>
<tr>
<td>Studio</td>
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</tbody>
</table>

Full length studio recordings of *Gianni Schicchi* are rare. The five considered here cover a span of forty years, from 1959 to 1999. As **Figure 5** demonstrates, the range between the quickest and slowest interpretations is narrower than that of the excerpted samples, 98 to 122 rather than 63 to 116. It is not surprising that there is a greater degree of similarity in the full-length studio recordings, given that they are all from a relatively recent LP vintage. Each
recording was made on a master that was, far more likely than not, magnetic tape, which was later transferred to long-playing records, or else recorded directly into a digital format. In either case, the concern for fitting duration to medium seems far less prominent in these recordings than in the excerpted recordings or the recordings of *Tosca* and *La Bohéme* made on cylinders or 78rpm discs.

The rate of increase of tempo is very shallow in Figure 6. However, eliminating the one low outlying tempo would greatly increase the trend, as exhibited by Figure 6, which drops the fifth and final data point of Figure 5.

**Figure 6**

![Tempo Trends in 4 Full-Length Studio Recordings](image)

Despite the appearance of a sharply increasing trend in tempo, the exclusion of the most recent full-length studio recording only on the grounds of it being the low outlier is foolhardy. The realignment of the trend line with the lowest data
point present seems to suggest that, at least recently, one of these groups could have influenced the performance practice of the others. Since excerpted recordings for this aria have existed well before full-length studio recordings, it is not unreasonable to hypothesize that, with regard to tempo, the recordings made of the aria when stripped from its musical-dramatic context, Figure 4, have not informed most full-length studio recordings, since Figure 6, the more representative group of the present sampling, indicates an accelerating trend. The most recent recording of this aria in its musical and dramatic context may have been influenced by the slower excerpted recordings as Figure 5 displays a late slow tempo.

**Concert Recordings**

The trend among the staged concert recordings considered in this study presents a challenge in that the only available recordings to me encompass just a seven year span, from 1976 to 1983, plus one from 2004. The slowest tempo, 96 beats to the minute, is approximately the mean tempo of the excerpted recordings, yet it is slower than all of the samples from full studio recordings.\(^{82}\) The fastest tempo, 126 beats to the minute, is the quickest of all recordings of this aria considered here. The slope of the trend line here is quite different from that slopes of the lines for either excerpted or full-length studio recordings. At least since 1976, these recorded live performances have shown a gradual

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\(^{82}\) The mathematical average tempo of the recordings of *O mio babbino caro* as an excerpt is 96.05.
increase towards Puccini’s metronome marking in their respective tempi for this aria, as exhibited by Figure 7. Whether or not this is the result of new interpretations or all but the most recent full-length studio recordings combined with the atmosphere of live recording remains to be seen through examination of a larger data pool. The trend of tempo choice in live performance quite possibly highlights a growing independence from the influences of the recording studio.

Figure 7

In comparing all three categories of recording against each other, it becomes clear that the trend in tempo choice for recording the aria as an excerpt is the opposite of the trends for the five full-length studio recordings and six live performances. It is also clear that the trends in full-length studio recording and live performance are very similar; live performance tempo trends are, as of 2004, rising very close to proximity with full-length studio recorded tempi. See Figure 8.
Because of the limited data pool, it is difficult to determine whether the similarities in trend between live and full-length studio recordings is the result of one influencing the other, performers more closely following Puccini’s indications, or another possibility. The former possibility raises alarm, as it hypothesizes a lack of original thought and an inappropriate regard for studio recordings. The latter, and hopefully the actual, situation reflects the way that performers should approach learning music and making performance practice decisions (for live performance – approaching the studio is something to be addressed at another time), i.e. – without taking instruction from recordings, especially recordings not of live performances.
Figure 8

Tempo Trends of *O mio babbino caro* Over Time

![Graph showing tempo trends over time for different recordings: Excerpt, Studio, Live, Log. (Excerpt), Log. (Studio), Log. (Live).]
The only tenor aria in this study, *E lucevan le stelle* from *Tosca*, is also the only aria considered here that lacks a direct tempo indication from the composer by metronome marking. (Ricci gives very specific instructions about how to execute the rubato of the main theme of the aria, but no indications of a specific tempo.) Puccini does not fail, however, to give the performer ample descriptive terms, and marks the score *Andante lento appassionato molto*. The nearest preceding tempo instruction occurs 54 measures previously, indicating that the beat note value moving from half to quarter note, with the tempo term *Largo*, while maintaining 40 beats per minute.\(^{83}\) This is at the string introduction of the main theme of the aria. The only indications between this point and the beginning of the aria are an *andante lento*,\(^{84}\) 32 measures prior, and a *meno*,\(^{85}\) 13 measures prior. Throughout *Tosca*, Puccini frequently indicates *lento* in 2/4 time with 40 beats on the quarter note per minute and in 4/4 time at the same metronome mark, he indicates *largo*. Also, Tosca’s aria *Vissi d’arte* bears a similar marking and is marked mm. = 40. Considering that Puccini’s indication at the aria is *andante lento appassionato molto*, it seems that his desired tempo is probably exactly what he indicated at the preceding *largo*.

This aria is Mario Cavaradossi’s final goodbye to his beloved Floria Tosca. While Puccini’s terms seem to indicate a hearty portion of artistic license for the tenor, the singer must bear in mind the delicate fabric of the drama so as not to tear it. True, the drama is more heightened here than at the point of *Vecchia zimarra* or *O mio babbino*

\(^{84}\) Ibid., p. 377.
\(^{85}\) Ibid., p. 380.
caro. However, this does not give the tenor freedom to milk the moment to the extent of an out of character moment of self-pity. Cavaradossi is a somewhat closeted revolutionary, not afraid of emotions or emotional displays, but not so given to them that he cannot think rationally. In order to guarantee the delivery of his letter to Tosca, he barters with the jailer rationally, not in a mountain of tears. Too slow a tempo here would indicate that Cavaradossi is little more than an emotion-driven whiner. The clear antithesis to Cavaradossi’s situation and character is pure stoicism. He is rational, but not devoid of emotion. Too quick a tempo can seem to suggest a Cavaradossi who is not in touch with his emotions.86

The Evidence of Recordings

Excerpted

As might be expected, with a large sampling of recordings, there is a large range of tempi, from 30 to 63 beats per minute. As Figure 9 demonstrates, the majority of excerpted recordings of Elucevan le stelle sampled in this project fall between 40 and 45 quarter notes per minute. Because Puccini’s instructions in the score seem to indicate a tempo of approximately 40 beats a minute, this is

86 This is obviously an aesthetic and artistic choice that must be made by each performer, however, to me, over or under doing anything immediately detracts from its artistic merit. Because no two people are identical, aesthetics differ, and performance choices regarding interpretation are naturally different between performers. Some audiences, a few notable examples can be found in Italian reviews, are unafraid to voice their opinions (either collectively or individually) and performers either respond to or ignore the aesthetic pleasure or displeasure of the audience. This reciprocal relationship can create, or at least inform, an Aristotelian mean of aesthetic judgment and standard.
not at all surprising. Encompassing 33 measures with 29 in 3/4 time and 4 in 4/4, *E lucevan le stelle* is comprised of 103 quarter notes. If a strict tempo of 40 quarter notes per minute were observed, the aria would last two minutes and thirty-five seconds. Enrico Caruso’s 1909 recording of the aria as an excerpt adopts a tempo of 42 quarter notes per minute and lasts for two minutes and forty seconds, following a twenty second introduction, only an 8% increase over the two minutes and twenty seven seconds necessary for this aria in strict time. Prior to this 1909 take, Caruso’s recordings of this aria are all without introduction and they all last in the neighborhood of 2:30, the approximate amount of space available on cylinders and 7-inch discs mostly used in the first five years of the twentieth century for the recording. Beniamino Gigli’s 1921 recording of the aria has no introduction and lasts for 3:00 at a tempo of 42 beats per minute, a 22% increase from strict to recorded time. Despite nearly identical tempi between Gigli’s and Caruso’s recordings, Gigli uses far more rubato, thus losing more time as the aria progresses.
Perhaps the most interesting aspect of the recordings in this category is that eight (36%) are the same tempo (42 beats per minute) and 14 of the 22 (63%) recordings in this sampling are within four beats per minute of the mode (38-46). This is the only aria in this study where the degree of tempo conformity is this high, as reflected by the nearly level trend line. This allows us to infer that neither the advancements nor limitations in recording technology affected major alterations to tempo in the recording of *E lucevan le stelle* in its excerpted form. In instances where excess space on a disc or cylinder needed to be filled, it appears that, with this particular aria, introductory material was added. Many of the recordings in this sampling have introductory material. Some
introductions are roughly 15 seconds, beginning four measures before the clarinets introduce the main theme. The majority of these introductions are roughly 50 seconds, beginning at the *meno* 13 measures prior to the clarinets' statement, pushing the upper limit of a 10” disc.

**Full-Length Studio Recordings**

*Figure 10* illustrates the various tempi of *E lucevan le stelle* when recorded in the context of the complete opera recorded in the studio. While the range is smaller than that of the excerpted recordings, the tempi here are spread across the range while maintaining a 60% congregation in the middle of that range (six of 10 are between 35 and 39 beats per minute). Most noticeable in this group are two later recordings whose tempi are 28 beats per minute. One
recording at this tempo could be written off as an oddity and nothing more, but two indicates that, for this sampling, this is, to a limited degree, an accepted practice. The earliest recording in this sample was made in 1938, using 78rpm discs. In this recording, where Beniamino Gigli sings the role of Cavaradossi, the aria encompasses 2 minutes and 41 seconds, leaving more than enough space on the disc for extra material. Because the duration of this recording does not even approach the time limit of the disc, it is safe to say that, at the local level, the technology does not appear to have affected this tempo. Overall, the trend of tempi for this aria when recorded in the context of a full-length studio recording appears to be narrowing and slowing slightly for the years represented in these recordings (1938-2001).

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87 If the two slowest tempi are removed, then the trend line still declines, though with a much less steep angle, and the range narrows considerably, suggesting a trend towards uniformity of tempo in full-length studio recordings. Furthermore, the average tempo of these recordings rises to circa 40 beats per minute.
Figure 11

Recordings of Live Performances

Beats per minute

Recordings, in chronological order

- Live
- Log. (Live)
In recordings of live performances, the range is very similar to that of full-length studio recordings, though the data reveals a trend opposite to the studio recordings. In the nine recordings in this sampling, the tempo has generally been speeding up slightly through the years represented (1956-1985) and maintaining a range that appears to have narrowed slightly. Figure 11 exhibits much less uniformity of tempo across the sampled recordings, which is not unexpected or unwelcome for live performance, as it indicates individuality in tempo choices.

When comparing all recordings of *E lucevan le stelle* in this study against each other, as Figure 12 illustrates, it is apparent that, at the end of the time period sampled, technology does not appear to have overtly influenced the tempi chosen by performers either in later full-length studio recordings or live performances. Furthermore, the trends of tempi for each of the three categories of recordings are in a different order than any of the other arias considered in this study. In the cases of the other three arias, the recordings made of the aria in excerpted form exhibit the slowest tempi, with the fastest tempi coming in live performance, and full-length studio recording tempi in the middle. What is interesting is the near parallelism in the trend lines for excerpted recordings and live recordings. This could indicate a subtle influence of the earliest recordings upon live performance, not one that would suggest performers are either actively or passively relying upon early recordings to dictate the manner in which they perform the aria, but perhaps serving as secondary and informative material. Reliance upon recordings to dictate rather than inform would be exhibited by lines that coalesce and then continue in very close proximity and fashion.
Figure 12

Tempo Trends of *E lucevan le stelle* Over Time

Beats per minute

Recordings, in chronological order

- Excerpt
- Full-length Studio
- Live

Log. (Excerpt)  Log. (Full-length Studio)  Log. (Live)
**Vissi d’arte**

Like *E lucevan le stelle* for the tenor, *Vissi d’arte* is the major aria for the principal soprano in *Tosca*. This is perhaps the most famous of Puccini’s soprano arias, and is certainly the most widely known and performed of the arias in this study. It is therefore not surprising that this is the aria with the greatest number of available recordings, especially in excerpted form. Floria Tosca is a very highly celebrated diva who, aside from her illicit love affair with Mario Cavaradossi, lives what appears to be an exemplary life. As her life crashes down around her in this scene, she pauses and pleads for an answer to her suffering, and once finished, goes about the business of attempting to preserve her fidelity to Cavaradossi and overcome Scarpia’s devices. William Berger offers the following explanation of this moment:

> The soprano’s only aria of the opera is a diva moment in every sense of the term. Critics complain that it stops the action, which is exactly what Puccini must have wanted: to break up the unrelenting depravity of the torture/abuse. Besides, it is more dramatically apt than most would admit. Tosca is a diva. What else would she have here but a diva moment? And like it or not, a big diva moment means an aria. Scarpia had already given the cue when he said, “Tosca on the stage was never more tragic!” Her whole life has been performance art. It takes away none of the sincerity of her prayer to God to suggest she is also trying to get a reaction out of Scarpia here, and in fact it adds an interesting dimension. It could well be understood as early metatheater… It has become the diva’s national anthem.  

Even though this appears to be an aria in the old-fashioned, show-stopping manner, its performers still must bear in mind the delicate dramatic fabric that Puccini and his librettists have woven. With regard to too slow a tempo, it seems that this aria might not

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88 Berger, pp. 154, 5.
seem over done until it becomes unbearably tasteless to the audience, though to Puccini, too slow a tempo at any point resulted in the death of the dramatic motion.\textsuperscript{89} Fortunately, none of the recordings considered fall into this category. Too quick a tempo seems to be the greater threat, as this can convey an inappropriate sense of shallowness to Tosca’s character.

For this aria, Puccini indicates a very clear metronomic value and gives no later indications that it should be altered significantly. With its thirteen measures in 2/4 time, 22 measures in 4/4, metronome marking (quarter note = 40) and descriptive terms \textit{(Andante lento appassionato and dolcissimo con grande sentimento)}, \textit{Vissi d’arte} encompasses 114 quarter notes.\textsuperscript{90} Strictly adhering to Puccini’s only indicated metronome marking would result in a duration of 2:51. Assuming a 40% increase due to rubato and rallentando as a rule of thumb produces a duration of 4:00. The meter change is accompanied by changes in key, accompaniment figure, declamation style, and musical texture. The music moves from e-flat minor to e-flat major and the declamation changes from lyrical to parlante. Also, the orchestra changes from a rhythmic and melodic doubling of the vocal line at the beginning to a filled out triplet accompaniment in the harp and a lyrical melody in the violins, of which Tosca only ever sings segments and not the entire phrase. In the thirteenth measure of the aria, Puccini marks \textit{poco rallentando} as the first section comes to a conclusion and in the fourteenth measure reiterates the \textit{dolcissimo con grande sentimento} that he marked at the beginning of the aria. If any change in tempo were to occur here, it seems that a slight slowing would be in order. As the majority of the recordings or this aria reveal, this is by far the least common practice for the tempo at this point in the aria.

\textsuperscript{89} See \textbf{Appendix A}, \textit{Il Decalogo di Puccini}, part 1, tempo.
\textsuperscript{90} Puccini, \textit{Tosca}, p. 317
The Evidence of the Recordings

Recordings of the Aria Excerpted

As Figure 13 illustrates, the large majority of recordings of this aria when extracted from the opera have two very distinct tempi: the initial tempo, and then a quicker tempo adopted at measure 14 upon the shift in meter from 2/4 to 4/4.\(^\text{91}\) Geraldine Farrar’s 1909 recording of this aria lasts for 3:27. At first glance, this appears to be only a 21% increase in duration, half of the increase that our rule of thumb has taught us to expect between strict time and expressive (recorded) time. The initial 26 quarter notes (the thirteen measures in 2/4 time), if taken in strict time at mm = 40, would require 39 seconds. In Farrar’s recording, taken at mm = 40, this section lasts 43 seconds, a 10% increase.

Her tempo in the second portion (88 quarter notes) of the aria is 44 quarter notes per minute. Strictly adhering to this tempo would result in a duration of 2:00; Farrar’s interpretation is 2:44, an increase by 37%, or close to our rule of thumb. This shift in tempo is not in the score. Ricci’s notes state that the initial tempo must always be maintained (40 beats per minute) for the first section of the aria, to measure 14. However, Ricci does not mention any change in tempo for the aria at this point.\(^\text{92, 93}\)

\(^{91}\) All but one of the recordings sampled here follow this model; the earliest recording of this aria, by Medea Mei-Figner (1900), exhibits tempi of 50 and 46, respectively.

\(^{92}\) Luigi Ricci, Puccini Interprete di se Stesso (Milan: Ricordi, 1954), pp. 106-7. Ricci’s only further discussion of the aria includes the need for the observance of Puccini’s markings and portamenti, as well as the suppression of ornaments.
The gap in the data line in tempi for mm. 1-13 of the aria (middle of the darker, lower line) represents missing data for two recordings. They were made as part of Edison’s European excursion to audition singers who might record for his cylinders instead of on rival companies’ discs. In each of these recordings, the singers begin at measure 14.
Occasionally, the tempo at measure 1 and measure 14 are identical or very nearly so (within two beats per minute), as indicated by the convergence (identical) of both lines, or the lines’ very close proximity to each other. The reasons for these few instances are unknown. They may represent traces of the *werktreue* mentality, the effects of working closely with Puccini or Luigi Ricci, a reexamination and reconsideration of the score and libretto, or some other impetus.

Also noticeable are the wide differences in tempo within several of the recordings. In the recordings with strikingly different tempi, the general practice appears to be an increase of the initial tempo by ten or more beats per minute. In no fewer than five of these sampled recordings there is a tempo difference of 20 or more beats per minute. Furthermore, as the trend lines indicate, the tempo gap between these two points appears to have been increasing.

**Full-Length Studio Recordings**

In the full-length studio recordings sampled for this project, not one performer elected to maintain the initial tempo marking, despite Puccini’s markings and Ricci’s notes; this is illustrated by *Figure 14*. 
Also illustrated in this graph, particularly noted by the trend lines, is the average difference in tempo between the initial and secondary portions of the aria. Unlike the recordings of this aria as an excerpt, in which some recordings differ in tempo by more than twenty beats per minute, the recordings of this aria as part of a full-length studio production exhibit an average difference in tempo of about 15 beats per minute. The trend lines further exhibit this as they run nearly exactly parallel to each other. Because the declines in the respective tempi are so slight, they are, in effect, inconsequential and it is safe to assert that one of several possibilities has occurred. First, that because of the immense popularity of this aria for both singers and listeners, the limitations of recording technology could not bind or regulate the standard performance practices of this aria. Perhaps it is possible that no drastic effects of the recording technology’s limitations have carried over from the earliest recording (on 78rpm discs) to the most recent, digitally recorded production. What seems least likely, but is still a reasonable possibility is that the effects of technological limitations so deeply impacted performance
practices in 1938 that, as of 2001, current performance practices regarding the tempi of this aria in the studio are still accepted at best, and held hostage at worst. That is, the quickening a mm. 14 is forced by technology. Or, it is so obvious a feature of the musical texture that nothing needs to be said!

Live Recordings

The recordings of live performances of Vissi d’arte, illustrated by Figure 15, differ greatly from the preceding two categories with respect to tempo diversity between the beginning and the aria’s fourteenth measure. Noticeably absent from this plot is a beginning tempo for the earliest recording. This is because this recording was made in 1903 by Lionel Mapleson on a cylinder during a live performance at the Metropolitan Opera with Emma Eames in the title role. Only a fraction of the aria, beginning at the fourteenth measure, survived to be transferred to long-playing records in the 1950s. While the tempo differences in the earlier live recordings of this aria are broad, they narrow significantly by the final live performance considered in this study.
Figure 15

Tempo Trends in Live Recordings

The trend of closing the gap between tempi in this aria is refreshing, and one that I, based upon my own study and aesthetics, believe should continue. I do not mean that I desire a single consistent tempo for this aria when and wherever it is staged, but I do believe that the performance tradition of splitting the aria in two with distinct tempi detracts from the drama by distorting its place in the opera from what Puccini seems to have envisioned, thereby changing, for better or ill, the overall aesthetic of the opera.

In comparing all three categories of recordings of this aria, it becomes clear that for the beginning of the aria, recordings in the studio and as excerpt exhibit are trending towards each other and holding steady by a separation of roughly two beats per minute. See Figure 16. Also, the trend line at the fourteenth measure of the aria for all recordings and full-length studio recordings evens out and runs close to parallel, beginning with a range of 12 beats per minute and ending within five beats per minute. This suggests that performers are doing similar things in all three types of recordings, but are not mechanically reproducing what they are hearing. The same appears to be
true for recordings of the aria as an excerpt and in the context of live performance at the beginning of the aria. Interestingly, the trend line for live performances at the beginning of the aria indicates a steady increase in tempo in live performance, crossing the trend lines for excerpted and full-length studio recordings. This appears to be happening independently from the trends in excerpted and full-length studio recordings at this point in the aria. It is possible that this steady increase reflects a growing aversion to the slow tempi chosen by so many at the beginning of the aria. Particularly striking are the ways that the excerpted and live recordings document tempo: excerpted recordings display a growing gap between the two tempi while live recordings demonstrate a shrinking one.

Because this aria’s length is within the capacity of even the most limited medium in this study, i.e. – the 3 minute cylinder, it is difficult to argue for any overt impact of recording technology. This is not to say that such influence does not exist, for it is possible that the practice of having two distinct tempi could have come about, in part, due to its preservation in and dissemination through recordings, but rather that more research and thought need to be devoted to this aria to make any further conclusions.
Figure 16

Tempo Trends of *Vissi d'arte* Over Time

- **Recordings, in chronological order**
  - Beginning (excerpt)
  - Beginning (Full-length studio)
  - Beginning (Live)
  - mm. 14 of aria (excerpt)
  - mm. 14 of aria (Full-length studio)
  - mm. 14 of aria (live)

- **Beats per minute**
  - Log. (Beginning (excerpt))
  - Log. (Beginning (Full-length studio))
  - Log. (mm. 14 of aria (excerpt))
  - Log. (mm. 14 of aria (Full-length studio))
Vecchia Zimarra

Without question, La Bohéme’s Vecchia zimarra is the least dramatically weighted aria in this study, but it presents some of the most intriguing tempo issues. One of Puccini’s few bass arias, Vecchia zimarra is Colline’s ironic yet poignant farewell to his coat, which he is going to pawn in order to buy a few comforts for the dying Mimi. Puccini marks the tempo at 63 beats per minute (on the quarter note) and marks the aria Allegretto moderato e triste.94 Taken strictly at tempo, with no rubato, the aria’s 26 measures of 2/4 time would last 54.6 seconds, substantially shorter than the capacity of any Edison cylinder. The only recording taken at tempo, with various tempi rubati and fermate, lasts 1:18, a 43% increase in duration. (As has been the case with the other arias, a roughly 40% increase in duration between metronomic time and a conventionally expressive performance appears to be the norm.)

Unlike the arias from Tosca, Luigi Ricci’s information observed in performance differs vastly from Puccini’s marking. Ricci instructs the performer to begin the aria at 44 beats per minute and increase the speed gradually to 63 beats per minute by the last line of text in the aria. At a strict tempo of 44 beats per minute, the aria would last 71 seconds, which, adjusted for the 43% increase between strict and performance time, would result in a duration of around 1:41. Ricci’s prescribed acceleration would reduce this to about 1:30. This discrepancy appears to be documentation of a change of mind on the part of the composer.95 Yet none of the editions published before or since

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95 Ricci, Puccini, p. 77. Dunstan omits Ricci’s notes regarding tempo and character on this matter from his thesis translation. This omission, however, was unintentional, and will receive
Puccini’s death include this alteration.\textsuperscript{96} We could, of course, challenge Ricci’s reliability on this point. In any event, the discrepancy does much to undermine the absolute authority of Puccini’s scores. However exacting and thorough Puccini may have been in notating his initial intentions, he may well have been open to other ideas in rehearsal.

Unusually, the recorded tempi exhibit an extraordinarily wide range of interpretations, all on the slow side, some by as much as half of the original marked instruction. The slowest recordings in this study are of the aria as an excerpt, with an average tempo of 30 beats per minute (quarter note). Taken strictly at this tempo, these recordings would require 1:58.5. Taking into account our rule of thumb of a 40% difference in strict and performance time, these recordings would then typically encompass roughly 2:40, and, indeed, most of these recordings run between 2:20 and 2:40.\textsuperscript{97}

As with the other arias in this study, there is a tension between maintaining forward dramatic motion and reading this aria conventionally, as Colline’s “moment out of time.” The further danger with this aria is to overdo the moment and give it too much weight, thereby upsetting the careful balance of the final act of the opera.\textsuperscript{98} Though William Berger, for one, paints Colline’s lament as a somber funeral for the trappings and carefree lifestyle of youth, and therefore grants the performer the liberty to milk the

\begin{itemize}
\item a great deal of attention and explanatory prose in the forthcoming revision to the initial work.
\item Harry Dunstan, personal correspondence with the author.
\item These discrepancies suggest that performers seem to be unable to decide on any consistent performance tradition for this aria.
\item I have never heard a performance of this aria that is faster than Puccini’s indicated tempo, and most I have heard have been drastically slower.
\end{itemize}
moment, libretto and score indicate otherwise.\textsuperscript{99} Colline is not one of the lead characters, so his moment ought not to claim more than Puccini elsewhere allots this character. He is the oft sarcastic and stoic resident philosopher of the group; text and music fit this profile. Unlike Tosca or Cavaradossi, whose moments are life (and death) defining, Colline’s moment is not as somber.

\textbf{The Evidence of Recordings}

\textbf{Recordings of the Aria as Excerpt}

All but two of the slowest recordings, i.e. – those under 40 beats per minute – are excerpts. Further, with the exception of a recording made in 1960, all of the slowest tempi are on recordings made in 1924 or earlier. As Figure 17 illustrates, nine of the nineteen (47\%) recordings in this category are slower than 40 beats per minute, six (32\%) are between 40 and 49 beats per minute, and the remaining four (21\%) are between 50 and 56 beats per minute. None was made on a disc or cylinder onto which another piece of music was also recorded, either before or after \textit{Vecchia zimarra}.

\textsuperscript{99} Berger, p. 134.
The data points in the range 40-50 are more or less following Ricci’s instructions; those above 50 are more or less following Puccini’s indications or splitting the difference between the two. Since the expansion of the disc to four or more minutes in 1902 and demise of the cylinder in 1929, the general trend in tempo has increased to the area of Ricci’s indications. One possibility for the few tempi that are in the 30-40 range at later dates is that the performers might have been following the tempi of the earliest recordings, though this is speculative without further evidence. That the slowest recordings were all (except one) made in the era of 78rpm discs and cylinders and that recordings have since increased in tempo (thereby decreasing in duration) could indicate that, in order to make more economical use of the medium, the tempi were decreased to increase the duration of Vecchia zimarra when recorded as an excerpt.
Full-length Studio Recordings

When recorded in the recording studio in the context of the full opera, the tempi of *Vecchia zimarra* differ significantly from the tempi when recorded as an excerpt. **Figure 18** exhibits what first appears to be a similar set of data to **Figure 17**, though without the low end of the tempo scale. The two earliest recordings (1928 & 1938) clearly reflect the practices that Ricci documented, as do all but the high and low extremes. The high extreme, 55 beats per minute gets into the ballpark in respect to the kind of motion originally specified by Puccini, while the low extreme, 34 beats per minute, seems to indicate a potential influence of the slowest recordings of the aria as an excerpt. Another possibility is that this tempo could be the result of needing to fill the rest of the side.

**Figure 18**

![Tempo Trends in Full-Length Studio Recordings](image)

The slight decline in the trend of the tempo appears to indicate a loose adherence to what Ricci documents and clearly disregards Puccini. It is conceivable that
the earliest recording’s slightly high tempo is the result of the long-term planning of the operatic recording, especially considering that it occupies the second half of its disc side. Furthermore, the third recording in this sampling, from 1938, also reflects a tempo that could easily be considered the result of the planning of the recording and its placement, in a space slightly more compressed than that for the 1928 recording.

Recordings of Live Performances

In live performance, as Figure 19 illustrates, the majority of recordings sampled reveal tempo choices between 40 and 50 beats per minute, which is generally in concert with Ricci. The two upper outliers (63, 56) exhibit closer adherence to Puccini’s indications. Each of these recordings was made prior to the publication of Ricci’s notes in 1954.

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100 This tempo appears to be an increase to reduce the amount of space required since taking it at Ricci’s tempo would overrun that side of the disc.  
101 It is also possible that these factors had no influence upon the tempo; but, considering pacing and disc space, it seems to me that the likely cause is as I have stated.
Removing the two fastest tempi, as Figure 20 demonstrates, results in a trend line that increases slightly, but with a lower average tempo than the graph with all of the data points (46 vs. 49 beats per minute). Though this presents a more mediated sample, it demonstrates that most of the recordings are closer to Ricci’s observations than Puccini’s indications.
The lack of any recordings in the 30-40 range suggests that those tempi do not hold any significance as a performance tradition for this aria, at least since 1946. The tempi chosen by the performers (singers and conductors) have been, on average decreasing by continually smaller increments, as indicated by the trend line. This is lamentable, as it signifies a continued milking of the moment, resulting in hyperbole, thereby destroying the dramatic motion. The aria is a miniature and performers would do well to reconsider the practice of exaggerating the significance of Colline’s farewell to his coat.

More concerning than this, however, is the trend that is revealed when these categories are compared against one another. As Figure 21 illustrates, the average tempo of recordings made of the aria as an excerpt are increasing. Meanwhile, the tempi chosen in live performance are trending toward the tempi chosen for full-length studio recordings. It appears that recordings of this aria that correspond to Ricci’s observations are influencing the choices performers are making in live performance. In either case, the deciding factor for the tempo choice is not at all what Puccini indicated and never changed. In this instance, I believe that the current performance tradition of Vecchia zimarra is flawed, and performers do no justice to the opera by sustaining this tradition.
Figure 21

Tempo Trends of *Vecchia zimarra* Over Time

Recordings, in chronological order

- Single
- Full length studio
- Live
- Log. (Single)
- Log. (Full length studio)
- Log. (Live)
CHAPTER VI
CONCLUSIONS

This project began as an investigation to prove whether or not the materials of the various forms of recording technology have influenced the tempi taken by performers in recordings. Its nature was akin to a trial, with the hope that a definitive verdict could be delivered based on what I knew would be circumstantial evidence. Beginning with a recording made in 1900, and encompassing the next 104 years of recording history and performance practice, it seems apparent that the results of this project are not conclusive with regard to the initial question. I cannot yet assert beyond a reasonable doubt that the technologies of the recording industry directly affected the tempi chosen by the many performers represented herein. However, this project has not been entirely fruitless. I believe that it has opened a new door and that its somewhat inconclusive results demand further research.

For *O mio babbino caro*, it appears as if the primary means of coping with the technological limitations, more space on the disc than standard performances require, was to add introductory material fashioned from the first four measures of the aria. It appears that tempo expansion in the earliest recordings was used judiciously, and similarly across the recordings of this period, so as not to unrecognizably distort the intended drama of the moment. Later recordings diverge on two different tracks, one increasing the tempo to the neighborhood of Puccini’s marking, the other slowing to the point of dramatic hyperbole. In some instances, the slowest tempi seem to be more about the soprano displaying her voice and less about the music. The tempi observed in excerpted recordings of this aria are mostly slowing, while some hasten. In the limited sampling of full-length studio and live recordings, the tempi are trending closer to Puccini’s score indication.
With *E lucevan le stelle*, it appears as if tempo manipulation to generate a specific duration is minimal and that the coping mechanism was the addition of introductory material. Unlike the introductory material for *O mio babbino caro*, nearly all of the introductions in the sampled recordings are the measures preceding the aria, played by either piano or orchestra. While the tempi in excerpted recordings of this aria have leveled off, the tempi in full-length studio recordings are gradually slowing and the tempi in live performances are gradually increasing.

The duration of *Vissi d’arte* is so near the amount of available space on the most limiting media, it appears as if no tempo manipulations occurred to fit the music to the disc. Perhaps this is the case, or perhaps this aria’s immense popularity emboldened its performers to pay no heed to the duration of the medium except to not overrun it. What is most remarkable about the tempi in performance of this aria is the significant tempo shift that accompanies the musical shift. The degree of this shift seems, to my taste, too great. Recordings of this aria as an excerpt exhibit a growing tempo change, while full-length studio recordings exhibit a more stable trend and recorded live performances appear to be decreasing the degree of this tempo shift.

*Vecchia zimarra* displays what I believe is the most obvious influence between recordings of different environments. Excerpted recordings are, on the whole, by far the slowest, particularly in the earliest years of recording. Because of the relative lack of appropriate introductory or concluding material in the score, it seems that the tempi of the earliest recordings could have been slowed to expand the duration to fit the disc. In full-length studio recordings, the tempi slow to the neighborhood of Ricci’s observations. Disturbingly, the tempi observed in recorded live performances slow dramatically to coincide with full-length studio recordings.
In the four arias examined, it appears that some recordings have been impacted by the technological limitations of the early years of the recording industry. It is also possible that the recordings that were most likely affected by the technology influenced, to some extent, later recordings of these arias, and some performers in live performance. Under appropriate circumstances, this can be positive; under inappropriate circumstances, it is the antithesis of music, particularly opera.

The real difference here lies in how performers utilize recordings. Inappropriate influence of recordings occurs when performers and students as indicative, rather than informative, resources use them. As an indicative resource, i.e. – one that dictates how to perform – recordings become implements of blind habit. Recordings used as informative resources exhibit how others have performed but are not the sole source of performance learning. Consideration of Igor Stravinsky’s differentiation between habit and tradition is critical for the performer desiring to learn music.

Tradition is entirely different from habit, even from an excellent habit, since habit is by definition an unconscious acquisition and tends to become mechanical, whereas tradition results from a conscious and deliberate acceptance. A real tradition is not the relic of a past that is irretrievably gone; it is a liberating force that animates and informs the present. In this sense the paradox which banteringly maintains that everything which is not tradition is plagiarism, is true…

Far from implying the repetition of what has been, tradition presupposes the reality of what endures. It appears as an heirloom, a heritage that one receives on condition of making it bear fruit before passing it on to one’s descendants.\(^\text{102}\)

Tradition is an active, conscious, deliberate and informed decision, whereas habit is unconscious, mechanical, passive, and ultimately uninformed behavior. Because it is not tradition, habit is then, by Stravinsky’s definition, a kind of plagiarism, here obliviously copying

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either tradition or the specific product of another person’s creative genius. Tradition and habit both imply the act of following in the artistic footsteps of those who have gone before. Habit is unthinking; it implies a disregard for the efforts of the creative process of those involved in the creation of a particular work of art, or its most recent re-creation. Whether habits arise from arrogance or ignorance is irrelevant. They may create a decent outcome if the model is a good one, or result in productions either uninteresting, because they belong to someone else, or poor in taste, because they do not support the spirit of the work. In any case, performances that reflect or are the result of an indicative use of a recording are not then performances in the truest philosophical sense, but are plagiarisms. We cannot usually tell whether a given recorded performance reflects fresh creativity, considered tradition, or reflexive habit. Such discernment can only come from the performers answer to a question: Why did you perform it in this way? If the answer to this question implies the following of another performer’s practice (observed either in live performance or recording), then the performance is the result of habit and therefore plagiarism. The only exception is if the previous performer’s reasons are based in the music and libretto and the latter performer understands and agrees with those reasons. Performance practices chosen solely because one likes another performer’s interpretation are habits. Performance practices that are viable are those that are the result of informed decisions, whether or not they fall under the umbrella of “tradition.” I will concede that even if they differ from the accepted norms of performance, because they are not habits, they enrich the performance tradition. A performance practice that fits neither category (tradition or habit) is one in which the performer conforms the aria to his or her liking solely for the purposes of showing off the voice. In these cases, the music is not important, only the voice. I believe this practice to be the greatest disgrace to music.

This project, while not by any measure definitive on tracing technological influences in performance practice, is at least this first step towards such an understanding. Meanwhile,
extreme discretion should be used when consulting recordings for purposes of developing an interpretation. It is unreasonable to expect such learning and formation to happen in a vacuum devoid of recordings, but if performers, coaches, and teachers are unscrupulous in the utilization of recordings, then we will forget how real performance sounds and looks (in opera).\textsuperscript{103} Nothing would be a greater detriment to music or bring about its death faster than this.

\textsuperscript{103} Philip Gossett, Divas and Scholars (Chicago, University of Chicago Press, 2006), p. 204.
APPENDIX A

Il Decalogo di Puccini

This is a summary of material that appears at the beginning of Luigi Ricci’s text, *Puccini Interprete di se Stesso*.\(^4\) I have included Ricci’s observations of Puccini’s fastidious wishes regarding the performance of his operas.

1) **Tempi** – The traditional tempo markings, *lento, grave, adagio, largo, larghetto, andante, andantino, moderato, allegretto, allegro, presto,* etc… are further specified by the other customary indications, “which appear as enlargements or also hints of that which they precede.” These terms, *allargando, ritardando, stentando, rallentando, accelerando, affrettando, stringendo,* etc., have varying degrees of special importance to the Lucchese musician, i.e. Puccini. Especially with Puccini, the other agogic subspecies are even greater in importance and specialization. Those previous markings amended by the terms *più, meno, assai, molto più,* and *molto meno,* are then modified a great deal.

2) **The Colors of Expression** – Regarding the different colors possible to give a piece, or even details of pieces, i.e. – *appassionato, comodo, con affetto, dolce, morendo, tranquillo, grazioso, gaia,* etc., “the governing word is taste. In the ten rules of Puccini ‘taste’ is the imperative word.”

\(^{104}\) Ricci, pp. 11-14. The translation is my own.
3) The Colors of Sonority – The same cautionary word as before, taste, must be observed when approaching sonorous qualifying terms such as crescendo, diminuendo, forte, piano, sotto voce, mezza voce, etc.

4) Fermatas – Other than where marked, the only prolongation of notes acceptable are those "le note coronate," the crowned notes. These are the highest notes in an arch-like phrase structure, and are to be no more or less than “exactly double their morphological value.” This guideline is a reflection of Puccini’s understanding of his art, all things in balance and with taste, without exaggerated effects.

5) Portamenti – Puccini disliked the portamento for its own sake, but at the few places he marked them, “woe to whomever did not give maximum expressiveness.”

6) The Dedication of the Artists – Puccini demanded total dedication, “in this regard he was a despot.” Paramount is the accuracy and exactness of tone and color, the interpretive effectiveness of the human voice and expressive gesture, the clear brilliance of pronunciation and the musical inflection. Anything less than a total and complete portrayal was, and remains, unacceptable.

7) Staging and the Dramatic Atmosphere – These must be an extension of the music, which dresses the scene. Puccini was open to varying degrees, but all things must contribute, optical and aural, to the “artistic emotions of everything together.”
8) **The Curtain Understood as Music** – Puccini indicated where in the score the curtain was to open and close and was so obsessed with the accuracy of its ascent and descent that he, on more than one occasion, said, “a curtain closed too quickly or too late often means the failure of the opera.”

9) **Backstage Music** – Puccini considered it to be of equal importance to the music emanating from the orchestra pit.

10) **The Impressive Power of the Bells** – Puccini made great use of bells and was, true to form, exacting in his desire for timbre, tone, and intensity.
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Discography by aria

_E lucevan le stelle_ from _Tosca_


Recorded in 1964.


*O mio babbino caro* from **Gianni Schicchi**


Alda, Frances. On Gianni Schicchi – O mio babbino caro. 78rpm disc. Victor,


Columbia, DB 2052, 1936-50 recorded between.


Martínez, Ana María. On *Soprano Songs and Arias: Anna María Martínez*.


Sayão, Bidú. On O mio babbino caro. 78rpm disc. Cloumbia, 17515-d, 1933.


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