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Further on Vibrato

Some Observations concerning Baroque and Modern Vibrato

Frederick K. Gable

The types and uses of vocal and instrumental vibrato, both solo and ensemble, are at once the most controversial and important aspects of sound production in the whole field of early music. The extent to which vibrato is employed and its size and speed can so obscure other elements of a performance that our very perception of a work can change simply on this basis.

Viewed objectively, disagreements concerning vibrato actually come down to questions of degree, and this is true especially in respect to vocal vibrato. How much fluctuation from a precise pitch or at what speed, and just how much deviation from regularity can be tolerated without vibrato becoming something else, or simply turning into defective tone production? How wide is too wide (i.e. approximating a trill), how fast is too fast (i.e. approximating a quaver), how far can a "vibrato" deviate before becoming merely unsteady singing. The answers to these questions differ, of course, from person to person, and from one historical period to another. Furthermore, degrees of fluctuation are extremely difficult to measure by ear since their perception is influenced by complex physio-psychological factors.

Fortunately, the world of early music has finally received a long overdue, thorough investigation of this vexing topic for the baroque period: *Das Vibrato in der Musik des Barock* by Greta Moens-Haenen¹ This exhaustive and detailed study quotes from, evaluates, and interprets all the important 16th-, 17th-, and 18th-century sources that mention vibrato (and related expressions) and makes them available under one cover for any scholar or performer of baroque music. All quotations are given in the original language and in German translation, complete with a facsimile reproduction of musical examples and other symbols. Even if you disagree with Moens-Haenen's interpretation, the original is there for you to interpret yourself.

Moens-Haenen's evaluation of the original sources leads her to these basic conclusions: (1) intentional vibrato was a type of ornament, narrower than a half step in width, and used for expression; (2) various types of ornamental vibrato existed, with many ways of producing it; (3) a continuous instrumental vibrato was not deemed acceptable; and (4) a "natural" vocal vibrato possibly existed, but was very narrow and unobtrusive.

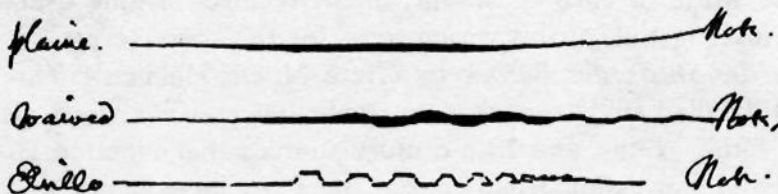
In the present study I shall offer a few observations or opinions concerning differences between modern and earlier vibrato, especially vocal vibrato, in respect to Moens-Haenen's work and to other recent writings on vibrato, particularly those by Robert Donington and by Frederick Neumann.

Pitch Fluctuation

I believe that the degree of pitch fluctuation is the element in which modern art music vibrato differs most from baroque or earlier vibratos. Most modern vocal vibratos are wider than a half-step, and many deviate more than a half-step above *as well as below* the main note. Roger North's drawing² illustrates the baroque differences between pitch fluctuations of a long note remarkably well:

¹(Graz: Akademische Druck- und Verlagsanstalt, 1988). The most substantial reviews in English are those of Robert Donington in *Early Music* 16 (1988): 571-73, and of Robin Stowell in *Music & Letters* 71 (1990): 241-42.

²*Notes of Me* (c. 1695), as in Moens-Haenen, *Das Vibrato*, 171.



The "plaine note" begins thinly and softly, thickens, and becomes louder in the middle, perhaps including a slight "natural" vibrato, and then terminates as it began. The "waived note" begins as the "plaine note," but as it becomes louder in the middle it smoothly and noticeably wavers in pitch and continues wavering until it ends. The "trillo note," or normal trill, begins the same and then precisely alternates between a definite upper pitch and the main note, while slightly accelerating and dying away. These sorts of expressive distinctions cannot be made if the tone continuously contains a wide pitch vibrato, as in modern normal tone production.

Some even more precise measurements of pitch fluctuation survive from the baroque and are cited by Moens-Haenen. Frequently instrumental or vocal vibrato is compared to an organ tremulant stop or is expected to imitate it. This means that the fluctuation is produced primarily as an *intensity* fluctuation (change of air pressure), although some pitch variation does occur. It also means that the pitch fluctuation is small and relatively regular. Two French sources of the mid-18th century, by Bérard and Blanchet,³ and Blanchet, describe the *flatté* as an ornamental "tone-coloring" technique equivalent to a quarter of a *port de voix*, suggesting a one-quarter step pitch fluctuation. This is further corroborated by the viola da gamba finger vibrato, or "two-fingered vibrato," and the woodwind fingered vibratos, all less than half-step pitch fluctuations. The often-cited comparison of vibrato with the undulations of a harpsichord string or bell (Tartini, *et al.*) also testifies to a very slight pitch fluctuation intended by the terms vibrato in the baroque. Furthermore, if a trill encompasses a half-step interval at the minimum, an ornamental vibrato must consist of a narrower pitch fluctuation, and the so-called "natural" vibrato of even less! In my opinion this kind of evidence indicates that modern string or vocal vibrato as part of basic tone production is far too wide for proper (dare I say "authentic"?) use in baroque music. With it no differentiation between a regular vibrato and an ornamental one is possible, and even the appearance of trills are

³Jean-Antoine Bérard, *L'art du chant* (Paris, 1755) and Joseph Blanchet, *L'art ou les principes philosophiques du chant* (Paris, 1756).

barely apparent. For the baroque performer, a distinct contrast between normal tone, ornamental vibrato, and the trill or other ornaments provided a number of different possibilities for expressive performance.

Vocal Vibrato

How and why has this modern vibrato been developed? Vocal vibrato is created to some extent by the intensity level or loudness of singing. If the voice is forced to near its maximum loudness or breath-pressure level, some relief of the muscular tension is required in order to maintain the sound production for any length of time; the degree at which this occurs will vary with each person's anatomy and vocal training. The repeated slackening of the muscles and their return to a high-tension level cause pitch and intensity fluctuations. Some baroque writers warned against singing too loudly, especially on high notes, perhaps for this very reason. However, this manner of vibrato may have come about due to the combining of *messa di voce* with vibrato, whereby the voice crescendos and then introduces vibrato. Here though, it is important to emphasize that this kind of vibrato arose from an ornament and therefore was not part of normal tone production. Among modern singers, the training for the continual loud singing needed in large opera houses and for being heard over a 20th-century orchestra makes this muscular movement so habitual that it is transferred to singing at all dynamic levels and becomes difficult to remove or control. This is what today is usually called the "natural" vibrato, when in reality it is a forced, learned vibrato resulting from loud vocal production. The unhappy result of this kind of vocal training is a vibrato that is very wide (a third or more) and breaks up the tone into a series of rapid up-and-down swoops. Moens-Haenen's study offers incontrovertible proof that this is *not* the natural vibrato described by baroque authors. We may infer from the baroque statements promoting a relatively vibrato-free tone that a vocal loudness level appreciably lower than today's operatic level was probably more the norm in the baroque period (and the classic period and even somewhat later). Thus today's modern operatic vibrato did not exist then as part of normal tone production. In fact, earlier musicians would probably consider today's normal vocal tone as continual trilling and accuse the singer of using it as a cover-up for faulty or careless intonation. Even the "pro-vibratoist" Carl Seashore advocated in 1936 a reduction of modern singers' vibratos from a half

step to a quarter step⁴; unfortunately his suggestion has not been put into practice.

If a singer is trained carefully, it is possible to retain control of pitch at lower than maximum intensity levels, and thereby to sing without a noticeable vibrato. Some of our finest early music singers today *can* do this; all singers *should* be able to. The anomaly is that non-vibrato singing often becomes the special effect, when the situation actually should be the opposite, although a few baroque sources mention non-vibrato as a special effect then, too.

Is it possible that in the baroque, the natural vocal vibrato was primarily produced as an intensity or loudness vibrato, while the ornamental vibrato was a pitch vibrato? (See again North's diagram on p. 92.) To the listener, the two types of vibrato may sound similar (unless pitch vibrato becomes rather wide), even though they are generated by different physical means. Intensity vibrato is produced by movement of the diaphragm or by the wind passage in the throat or mouth. Pitch vibrato, on the other hand, is created by the vocal cords or folds. To be sure, a vocal intensity vibrato results in some pitch fluctuation as well, but it is normally very slight and less apt to become wide and uncontrollable. This intensity vibrato corresponds to the organ tremulant, in that it mainly results from fluctuating wind pressure, as well as to slurred bowed-string tremolo, both of which were often compared with vocal vibrato in the baroque. In this connection, the organ register *voce umana* or *piffaro* comes to mind. Being generated by two slightly mis-tuned ranks, it too is a fluctuation of loudness, not of pitch.⁵ In addition, Zacconi's remark⁶ about the vibrato being useful for learning to sing ornamentally makes more sense, since the intensity vibrato could lead directly into note repetition (*trillo*) and then into a kind of articulation for fast notes. A possible scale of accelerating intensity fluctuations from slow, measured tremolo, to vibrato, to *trillo*, to *passaggi* could have existed. These would all have been produced in the same way and have differed only in speed and application.

⁴Carl E. Seashore, *Psychology of the Vibrato in Voice and Instrument* (Iowa City, 1936), 155-56, and repeated in *Psychology of Music* (New York, 1938), 52.

⁵For the historical distinctions between these techniques and their expressive use, see Stewart Carter, "The String Tremolo in the 17th Century," *Early Music* 19(1991): 43-59.

⁶*Prattica di Musica* (Venice, 1592), as quoted in Moens-Haenen, 18.

The use of vibrato toward the end of a long-held note at the end of a phrase or complete work is referred to in the treatises,⁷ yet appears only briefly in Moens-Haenen's summary.⁸ This application of vibrato is rather wide-spread today among many popular music singers, folk-singers, rock singers, and in most non-Western cultures. The practice is somewhat analogous to the baroque use of vibrato with the *messa di voce*. However, today's non-classical singers use it not because someone wrote about it, but because it seems a "natural" thing to do. It represents a lessening of intensity created by a loosening or relaxing (weakening?) of the vocal musculature appropriate for the end of a song. As such it would be classed in the pleasing (*lieblich*) category of vibrato functions, mentioned by Moens-Haenen. Many early music singers would do well to adopt this rather commonly-heard vocal technique for final notes, provided they are singing with a relatively vibrato-free tone to begin with. The strongly-attacked, full-volume, full-vibrato, held-out-to-the-bitter-end singing (or playing) of the last note of a phrase or of a complete piece is out of place in the baroque, except as a special effect. Yet we still hear it much of the time.

Violin Vibrato

Pitch vibrato on violin-family instruments is more limited in width than is vocal vibrato. The player's left hand can only pivot so far in either direction while still keeping the finger in one place on the fingerboard. Unfortunately the same degree of hand-waving on the higher-pitched violin produces a greater degree of pitch variation than on the cello or double-bass. To keep the size of vibrato proportionally uniform throughout a string ensemble, violinists should ideally use a narrower vibrato than players on the lower strings. Yet the opposite is the more normal situation, today.

Although a violinist has more control over vibrato than does a singer, today it is applied just as pervasively. Many baroque treatises attest to the importance of precise intonation in violin playing, especially distinguishing between enharmonic notes, preserving key qualities, and matching the temperament of continuo instruments.⁹ These fine

⁷Pier Francesco Tosi-Johann F. Agricola (Berlin, 1757), Johann A. Hiller (Leipzig, 1780), Georg S. Löhlein (Leipzig, 1781).

⁸Moens-Haenen, *Das Vibrato*, 271-79.

⁹For a comprehensive treatment of this topic, see Patrizio Barbieri, "Violin Intonation: a Historical Survey," *Early Music* 19 (1991): 69-88.

distinctions of intonation as understood and practiced in the baroque are all obscured by a continuous, modern vibrato.

A fundamental difference of approach to tone production on string instruments separates earlier playing from modern. The modern player seems to be creating the tone quality with the left hand, including a considerable vibrato, while the bow simply generates the vibrations; the earlier violinist primarily determined the pitches with the left hand, while most other aspects of playing were produced with the bow—the fine nuances, articulations, varied accents, etc. This is the most difficult adjustment a string player must make in playing earlier instruments: bowing needs to become almost everything. If the modern player's preoccupation with continuous left-hand vibrato is denied, the player feels expressively powerless and therefore strongly resists omitting it. Learning to use vibrato as an ornament would restore a means of expression, but would also require a basic tone that is clear and vibrato-free.

Vocal Ensemble Vibrato

I wish Moens-Haenen had devoted more space to vibrato in ensemble performance; she has a short chapter mainly on orchestral playing (only 2 pages!), and other brief passages allude to it, but it is not mentioned directly in her summary.¹⁰ Moreover, nothing at all is said about vibrato in choral or vocal ensemble singing. This may be due to the fact that no one ever described it during the baroque period; consequently no sources exist for Moens-Haenen to quote and evaluate.

The use of vibrato in the ensemble singing and playing of "earlier" music is one of the most abused practices today. One would, for example, like to hear the solo quartet passages in Beethoven's Ninth Symphony sung so that the notes could be heard without having to struggle through the vibratos. Even the most recent "authentic instruments" recordings of this work have forgotten to consider the authenticity of the vocal instruments. And how should the solo ensembles in Mozart's operas sound? Ideally, opera singers should change their vocal production when singing a duet or larger ensemble piece; solo parts can admit more vibrato, but it should be minimized in ensembles, to allow the audience to hear the notes themselves.

¹⁰Moens-Haenen, *Das Vibrato*, 271-79.

A common occurrence in many small vocal ensembles, such as madrigal singers, is to sing with a relatively straight tone in soft or medium-loud sections and then to adopt a vibrato when singing louder ones. True, this may be a way of increasing the intensity, but pitch and clarity of harmony become obscured and the ensemble blend and balance is usually distorted as well. If this is intentionally done, it can be accepted as interpretation, but I feel that it often happens with no thought or intention behind it at all, especially among male ensemble singers. Because of the resulting clash of vibrato speeds and pitch variations, the sounds acoustically interfere with each other and tend to negate the increase in intensity; "straight" in-tune tones sung more loudly would actually produce a greater intensity with less effort. One might point to the King's Singers as an example of vibrato-increase combined with louder singing, and to the Tallis Scholars' sopranos as an example of intense straight tones.

To what extent does ensemble vibrato in larger ensembles color the tone quality rather than create actual pitch deviations? Beyond a certain minimum number of performers on the same part, even with singers, the sound produced becomes a blend of tones sounding like a single straight-tone pitch, but with a distinctly different quality. The tone is thicker, like bold face type as opposed to normal type, and somewhat duller, because interference between the upper overtones in each voice reduces their strength, consequently causing the tone to sound less brilliant. This thicker or "fatter" tone quality may be appropriate to the repertoire of the 19th and 20th centuries, but seems incorrect for most kinds of earlier music, particularly since much of it was designed for few-on-a-part or solo ensemble performance. Thus Brahms's motets may permit some choral vibrato, but not Bach's or Palestrina's (although the relatively straight-tone singing of Mendelssohn's choral work is impressive, as in Phillippe Herreweghe's recordings of the Collegium Vocale Ghent, for example). The apparently vibrato-free choral sound is standard practice among today's best northern European choral groups and is there considered the normal singing style for amateur church choirs. In the United States it is rarely heard. The Hilliard ensemble's performances and recordings may be mentioned as examples of both possibilities used in their appropriate repertoire: Perotin Organa or Josquin motets vs. German Romantic part songs.

A Response to Two "Pro-Vibratoists"

It seems to me that the opponents of vibrato-free or minimum-vibrato tone production have never objectively listened to any of the possible

alternatives to modern vibrato or experienced the beautiful sounds that can result. Anyone who has heard the soaring sounds of the Tallis Scholars' sopranos or the ringingly resonant chords of the English Concert's strings cannot deny their musical effectiveness.¹¹ Without listening objectively, the pro-vibratoists attempt instead to merely justify the status quo by quoting the chapter and verse that supports their view. Robert Donington even arrives at that conclusion after reading and reviewing Moens-Haenen; her own conclusions say otherwise. I believe that she has provided all the evidence to convincingly counter the arguments of the pro-vibratoists, evidence that also extends outside the baroque period, both earlier and later.

Robert Donington's arguments for the scientific necessity of vibrato need also to be questioned, a challenge I have yet to see in print. In his 1982 book on baroque performance he states:

Recent acoustical researches . . . [have determined that] any absolutely unvarying persistence of the same aural signal beyond this time-span [about one-twentieth to one-eighteenth of a second] very rapidly fatigues that band of fibres in the basilar membrane of the ear which is involved in detecting it: there is then a subjective decline both in the volume and in the colourfulness of the sound perceived. It seems to go a little dead on us; and this is the acoustic consideration which makes vibrato a natural rather than an artificial recourse on melodic instruments.¹²

Moreover, in his subsequent review of Moens-Haenen's book he states more succinctly:

For it is a constant of aural acoustics that any stimulus invariably prolonged rapidly fatigues the ear, producing subjectively a sense of fading and loss of brilliance. Vibrato is nature's remedy.¹³

¹¹As Robert Bremner indicates, "If an unsteady voice is reckoned a defect in a singer, he may also be called a defective performer whose fingers are destroying the plain sound, which includes both truth and beauty." *Some Thoughts on the Performance of Concert-Music* (London, 1777; repr. London: H. Baron, 1972), ii.

¹²*Baroque Music: Style and Performance* (London: Faber Music, 1982), 35. Donington makes similar comments in a brief observation "Gripes and Greetings," *Early Music* 11 (1983): 283.

¹³Review of *Das Vibrato in der Musik des Barock* in *Early Music* 16 (1988): 573.

This view was reiterated in this journal in one of Mr. Donington's last published statements on performance practice.¹⁴ Two points may be drawn upon to counter his obviously pseudo-scientific arguments.

(1) Donington assumes that pitch vibrato is the only way to vary a seemingly straight musical tone, neglecting to consider dynamic or timbral fluctuation as possibilities. Does anyone complain about the straight tone of a piano or harpsichord or lute: No, because the dynamic level of the tone is constantly decreasing as the tone continually dies away. "Straight" musical tones may also increase in dynamic level, as they naturally do in live acoustics, or they may both increase *and* decrease, as in the baroque *mesa di voce* ornament. In fact, giving every medium-length to long musical tone some kind of dynamic shape by continually varying its loudness is often considered essential to baroque playing as well as to that of other historical periods. In other words, musicians don't just sound a note, they *do* something with it.

(2) Donington neglects to apply the same scientific measurement to a musical tone produced by a human being, e.g. a singer, flutist, or violinist, etc. It is virtually impossible for any of these to produce an absolutely unvarying tone, measured scientifically. Even the bowing of an open violin string will contain some slight pitch or intensity variations or other unevenness due to imperfections in the string (inharmonicities) or conflicting resonances in the vibrating violin body. The same is true of wind-instrument tones and those of a singer, the latter to an even greater degree. Even the seemingly pure tones of a pipe organ are always disturbed by air vagaries, the beating of the upper overtones, and the sympathetic resonances of the other pipes. Electronic keyboards or synthesizers perhaps come the closest to producing a scientifically unvarying tone; indeed, one reason they sound so artificial is because the tones are so pure and unvarying. However, no acoustic instrument, such as those enlisted to perform baroque music, can approach the unvaried purity of electronic tone production, so the scientifically-justified need for vibrato evaporates. However, Donington's distinction between an ornamental and a tone-coloring vibrato is useful, although he never precisely defines the difference.

I would also like to comment on Frederick Neumann's article, "The Vibrato Controversy," which appeared in an earlier issue of this

¹⁴The Present Position of Authenticity," *Performance Practice Review* 2 (1989): 124-25.

journal.¹⁵ He correctly observes that the phenomenon of *sonance* "deludes" us into hearing a tone with vibrato as if it were a single pitch, instead of actually being aware of all the pitches [or frequencies?] which are sounding above and below the focal pitch.¹⁶ However, I find it hard to believe that a quarter-tone string vibrato or a semi-tone vocal vibrato, the modern average (as he states) only creates "an aural sensation of richer tone"¹⁷ and not a tone with a noticeable vibrato. I think the vibrato has to be much narrower than that to be heard as only tone-enhancing and not as vibrato itself. The evidence mentioned above and extensively cited by Moens-Haenen shows that the natural pitch fluctuation of sustained vocal tones in the baroque was far narrower than our modern quarter-tone (or even wider) vibrato. Thus a baroque tone, with its narrower baroque natural vibrato, would have a decidedly different *sonance* than one with a modern, wider vibrato, namely, it would sound much "straighter" to us by comparison. If one listens closely to some of today's early music "straight" tone singers, it will be noticed that the tone sounds straight, but with continual small pitch fluctuations in it. This is the kind of natural vibrato that most of the baroque sources are describing: "this tremolo should be light and pleasing" (Zacconi, 1592); "a beautiful, lovely, trembling, and wavering voice" (M. Praetorius, 1619); or the wavering should sound like a bell or open string when struck or plucked (Tartini, *Regole*, ca. 1750; L. Mozart, 1756).

Most of Neumann's quotations from baroque authors on vibrato usage refer to vibrato as an ornament, which I think everyone today agrees is proper, but he draws upon such quotations erroneously to justify the more continuous, tone-enhancing vibrato.¹⁸ Again, how can it be an ornament if it is present all the time?

Later in his article Neumann opens himself to challenge with a boldly frank question: "Is there anybody who will seriously contend that our finest modern singers, great modern string virtuosi, leading string quartets, and orchestras play with wrong intonation, or that their sound evokes words like 'defect' or 'palsy' or 'paralytic'?"¹⁹ Surprise, surprise, there are thousands of players and listeners today who would shout a

¹⁵*Performance Practice Review* 4 (1991): 1-14.

¹⁶Neumann, 2-3.

¹⁷Neumann, 2.

¹⁸Neumann, 7-9.

¹⁹Neumann, 12.

resounding YES! They need only listen to the difference between Von Karajan's and Norrington's Beethoven symphonies, between the Tokyo and Salomon Quartet's Mozart, or a Handel aria sung by Beverly Sills or Emma Kirkby. In fact, Neumann partly answers this question himself, "String vibrato was certainly not as all-pervasive as it is today, and in particular the overly-rich, voluptuous, 'schmaltzy' variety practiced by some of today's players is inappropriate for 18th-century music."²⁰ His self-contradiction here calls his other arguments into serious question.

Elsewhere, Neumann refers to two articles in the new *Performance Practice: Music after 1600*.²¹ He criticizes Ellen Harris's justifications of non-use or minimal use of vibrato in the baroque²² and partially quotes Will Crutchfield's statements about classical voices to support his own views.²³ However, he ignores the rest of Crutchfield's paragraph on vibrato and does not look into the topics as discussed in the parts on the 19th and 20th centuries. Neumann quotes Crutchfield's statement about the unhealthy tension that arises when a modern singer continually suppresses his customary vibrato, but omits the sentences following: "On the other hand it is certain that the degree of vibrato present in an artist's everyday singing is largely a matter of (subconscious) cultivation during training . . . during the history of Western artistic singing the steady trend has been towards the cultivation of stronger, wider, and slower vibrato There is little reason to doubt the supposition that in the Classical era, as before, a perceptible oscillation in pitch and intensity on a sustained note would have been thought undesirable."²⁴ Neumann's out-of-context quotation unfairly misconstrues Crutchfield's meaning.

Vibrato in Later Periods

Brown and Sadie's *Performance Practice* volume also provides some surprising insights into vibrato practices of the 19th and 20th centuries that convincingly counter today's pro-vibratoists. In the 19th-century

²⁰Neumann, 13.

²¹Ed. Howard M. Brown and Stanley Sadie (New York: W. W. Norton, 1989).

²²Neumann, 4-5.

²³Neumann, 4, n. 6.

²⁴Will Crutchfield, "The Classical Era: Voices," *Performance Practice: Music after 1600*, 295-96.

chapters on strings by Robin Stowell²⁵ and on voices by Crutchfield,²⁶ a desirable 19th-century norm is stated to have been that of a narrow, selectively-used vibrato. However, the most revealing evidence is brought forth by Robert Philip in the chapter on 20th-century practices. Based on published writings and the indisputable evidence of early recordings, he summarizes the changes in performance styles from early to late 20th century in these words: "In the early years of the century, there was a clearer and more detailed differentiation between levels of expression in a piece of music—between accented and unaccented notes, between long and short notes, between portamento and non-portamento, *between vibrato and non-vibrato* [my emphasis], and between faster and slower passages."²⁷ This sounds like a description of 18th-century playing! Philip continues: "The trend in later years, and continuing into the late 20th century, was towards greater evenness and regularity of expression—evenness of rhythmic emphasis and of tempo, *regularity of vibrato* [my emphasis], avoidance of disruptive portamento, and a style of rubato based on gradual flexibility rather than rhythmic distortion."²⁸ This suggests that our historical authenticity is not as historical as we think, and has much in common with 19th-century performance ideals. In large measure it may exist as a reaction to late-20th-century standard performance styles.

It seems clear to me that those writers and performers still trying to justify modern vibrato for the performance of baroque music have had their position fully undermined by these recent investigations. Of course, vibrato existed in the baroque, but it was not the same as our normal modern vibrato, nor was it employed as often. Why shouldn't earlier music sound somewhat different from more modern music? Later painting, architecture, and literature are different from their baroque counterparts. Let older music and modern music co-exist, each preserving its distinctive qualities of performance. Surely the musical world is large enough for both.

²⁵"The 19th Century: Strings," *Performance Practice: Music after 1600*, 401.

²⁶"The 19th Century: Voices," *Performance Practice: Music after 1600*, 429, 453.

²⁷"The 20th Century: 1900-1940," *Performance Practice: Music after 1600*, 478.

²⁸"The 20th Century," 478.