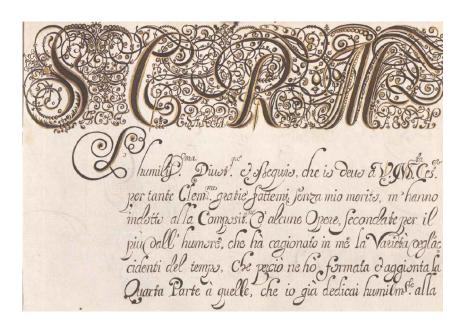
Between Frescobaldi and Froberger: From Virtuosity to Expression David Schulenberg

I gave this talk on April 9, 2016 at Killian Hall of the Massachusetts Institute of Technology for a joint meeting of the American Musicological Society—New England Chapter and the New England Society of Music Theorists. Another version was given July 15, 2016, at Canterbury, U.K., for the Sixteenth International Conference on Baroque Music ("Biennial Baroque"); matter inserted from the latter appears in brackets.

When I last addressed this group, it was on March 8, 2014, precisely the three hundredth birthday of C. P. E. Bach. I'm grateful to the committee for accepting another birthday proposal from me, this time for the German composer Johann Jacob Froberger. Froberger was born four hundred years ago in 1616, but because his date of birth is unknown we will have to celebrate his birthday all year long. Actually, we know that he was baptized on May 19 and that he died during the evening of May 6, 1667, probably just short of his fifty-first birthday. He wrote almost excusively keyboard music, and only some two hundred pieces survive with uncontested attributions to him. Most if not all of them were written between 1649 and 1660, a relatively brief portion of what today seems a short life.

Froberger nevertheless has traditionally been accorded an important place in histories of European music. Since the appearance of the collected edition by Guido Adler at the turn of the twentieth century, his toccatas, suites, and contrapuntal pieces have been considered important intermediaries between the early-Baroque Italian keyboard music of his teacher Frescobaldi and works by later German composers, including J. S. Bach. Although this teleological view of music history is no longer in fashion, the Germanic historians who rediscovered Froberger's music were right to see it as foreshadowing their own Romantic sensibility. In his preface to a manuscript collection of pieces dedicated to the Habsburg emperor Ferdinand III in 1656, the composer mentions that these compositions express emotions that the vicissitudes of time have occasioned in him (ex. 1). Rubrics and drawings that accompany a dozen or so of his pieces refer to Froberger's experience of imperial coronations, maritime misadventures, and the ravages of the Thirty Years' War, making this repertory unique for its programmatic and autobiographical compositions, as well as for the personal subjectivity which they evidently express.

Example 1. Johann Jacob Froberger (1616–67), dedication of the 1656 autograph manuscript (Vienna, Österreichische Nationalbibliothek, Mus. Hs. 18707), "Libro 4"



My purpose today is to consider Froberger's work within the context of seventeenth-century music, especially in relation to that of his teacher Frescobaldi. This is an old topic, but discoveries made around the year 2000 seemed to promise new insights into Froberger and his music. Three previously unsuspected manuscripts containing many pieces by Froberger appeared seemingly out of nowhere. Unfortunately, the most important of these, an autograph containing eighteen previously unknown works, was purchased at auction by an unidentified buyer. The dealer prevented publication of its contents, and today its whereabouts are unknown.

Meanwhile, new sources have also been identified for the music of Frescobaldi, and our understanding of his output has been revised. On the whole, the two composers wrote the same types of keyboard music. Their pieces fall into three general categories: toccatas, contrapuntal pieces, and dances. Frescobaldi also composed further types of pieces, such as variations and liturgical compositions, but I will not discuss these, as Froberger evidently did not write them.

The two composers shared a common understanding of toccatas and contrapuntal pieces, that is, fantasias, ricercars, canzonas, and capriccios. With dances, however, Frescobaldi wrote almost exclusively in the Italian style of around 1600, producing many correntes and galliards as well as chaconnes and passacaglias. Froberger instead composed allemandes, courantes, sarabandes, and gigues: French dances such as he might have heard played by lutenists in his native Stuttgart during the 1620s and later.

It is in the dances that I perceive the transition alluded to in my title. Frescobaldi's dances are mostly short and fast (ex. 2). This example alternates interestingly between G minor and B-flat. But few of Frescobaldi's dances are comparable in length or seriousness to Froberger's allemandes, which can approach five minutes in duration when both repeats are taken. Although Frescobaldi incorporates brief passages of imitative counterpoint into his dances, as in this example, Froberger seems to have been the first to turn one dance, the gigue, into a full-blown fugue. Evidently Froberger took dance music with a seriousness that it did not receive from Italian composers, and it is chiefly his allemandes that bear programmatic titles or rubrics.

Example 2. Girolamo Frescobaldi (1583–1643), Balletto III from *Toccate . . . Libro primo* (Rome, 1637)



An allemande of the type composed by Froberger is not really a dance, although early examples still reveal traces of the simpler older sort of allemande of which they are an elaboration. Some later examples bear alternate titles; one source describes the allemande of Suite 14 as a lamentation over being robbed by soldiers (ex. 3). Another allemande was, according to Froberger's autograph inscription, a meditation on his own future death (ex. 4). Rebecca Cypess has connected the title of this piece with a contemporary tradition of French literary meditations. More fundamentally, such compositions, as well as two or three tombeaux or memorial pieces, reveal a sensibility distinct from that of Frescobaldi and other predecessors.

Example 3. Suite 14 (1656), allemande ("Lamentation sur ce que j'ay esté volé . . ."), first half, from Berlin, Archiv der Sing-Akademie, SA4450



Example 4. Suite 20 (1660), "Meditation faite sur ma mort future," first half, chiefly from Berlin, Archiv der Sing-Akademie, SA4450



Frescobaldi's music is not inexpressive. But as in the vocal music of his contemporary Monteverdi, there is a virtuoso or theatrical quality to its expressivity. It *presents* itself as expressive, as rhetorical, but it does not pretend to intone the composer's own feelings.

Froberger was a virtuoso keyboard player, like Frescobaldi, and the toccatas of both are replete with display passages that are dramatic or gestural but not pathetic or evocative in the manner of Froberger's dances and laments. Both composers were also capable of writing deeply cerebral music in the contrapuntal genres. But such pieces, if they were intended to express anything at all, do so in a way that is also distinct from Froberger's dances.

The latter extended dance music into a realm unimagined by Frescobaldi. Not only Froberger himself but his contemporaries and followers were surely conscious of something distinct in his dances and laments. A manuscript that surfaced at Berlin in 2000 gathers together nearly all his compositions that bear programmatic or autobiographical rubrics. In the eighteenth century, the German writer Johann Mattheson, who may have known this Berlin manuscript, alluded to a tradition that remembered

Froberger as a composer who was unusual for incorporating programmatic elements into music while emulating French lute players.

Today it is possible to identify with greater confidence than previously which of the dances attributed to Froberger are early compositions of his. It has also become possible to speculate plausibly about which lute players and lute music might have provided models for him. Rudolf Rasch has suggested that René Mesangeau, whose music predominates in two published anthologies of the 1630s, was a likely influence. Many passages in Froberger's dances indeed recall lute music of that decade (exx. 5, 6). Yet Froberger's earliest datable suites reveal a mature synthesis of elements from both the Frescobaldi style and that of France. These pieces, incorporated into a 1649 autograph manuscript, cannot have been Froberger's first. The volume, dedicated to the emperor, is designated book 2 (ex. 7). We have two other such imperial manuscripts, but neither these nor the recently auctioned autograph, which is even later, provides insights into Froberger's early development, whose traces must be sought in less authoritative sources.

Example 5. René Mesangeau, allemande from *Tablature de luth* (Paris: Ballard, 1638), no. 32 in *Œuvres*, ed. André Souris (1971)



Example 6. Froberger, Suite 23, allemande, first half, chiefly from "Grimm," without ornament signs



Example 7. Froberger, title page of the 1649 autograph manuscript (Vienna, Österreichische Nationalbibliothek, Mus. Hs. 18706), "Libro 2"



[One such source, known as the Grimm tablature, was assembled at the end of the seventeenth century by an unidentified German copyist. It is one of several late sources that contain otherwise unknown suites attributed to Froberger. Grimm's attributions to Froberger have been doubted, but the style of these pieces does seem to place them before the compositions in the 1649 autograph. The allemande shown in example 6, from Suite 23, has a concordance in another recently discovered manuscript, allaying some of the doubts about the attribution to Froberger, and also making his authorship more plausible for five other suites found only in the Grimm tablature.]

All six suites would make sense as the work of a German composer around 1640 seeking to integrate elements of the French lute style with a monumentality more characteristic of Habsburg ensemble music, and with his own sensibility. Suite 23 opens with an older type of allemande that avoids the elaborate written-out arpeggiation of later examples. On the other hand, it incorporates a simple imitative passage of a type that is fairly common in early allemandes, including some by French lutenists (as in ex. 5). It also contains what today seems an unusual sort of deceptive cadence, though one that Froberger used in other works (ex. 8, mm. 13–14; ex. 9, mm. 26–27).

Example 8. Suite 23, allemande, conclusion, chiefly from "Grimm," without ornament signs



Example 9. Suite 7, allemande, middle of second strain, from "Libro 4"



¹ Only the gigues in these suites raise questions of style, but gigues often seem to have migrated between suites, some probably being added arbitrarily or newly composed by copyists; see my "Recent Editions and Recordings of Froberger and Other Seventeenth-Century Composers," *Journal of Seventeenth-Century Music*, online at http://sscm-jscm.org/v13/no1/schulenberg.html, para. 6.18.

Allemande 23 is similar to the allemande of Suite 22, in the same key of E minor but found only in Grimm. Like Allemande 23, this one goes to B minor at the double bar, leading up to the cadence with another little imitative passage. The texture here is slightly more florid than that of Allemande 23, but less so than in what I take to be later pieces (ex. 10).

While we can't be entirely sure that Suite 22 is by Froberger, I am fairly confident that is the type of piece he would have been composing prior to the better, and better-known, music that he would present to the emperor. Although relatively modest, these pieces are already grander and more monumental than those of the lutenists. A century before the great dance suites of Bach, it took some imagination to suppose that the dance genres of the lute players could encompass the more ambitious dimensions and express the more profound sensibility suggested here.

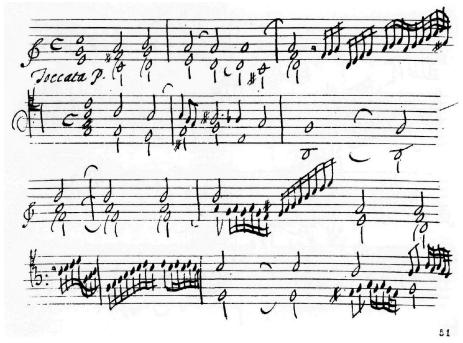
Example 10. Suite 22, first half, chiefly from "Grimm," without ornament signs



² Distinguishing an original or striking piece by a master such as Froberger from the ordinary or routine work of a lesser composer or imitator is bound to be subjective. Some, such as the German editor and harpsichordist Siegbert Rampe, have been eager to add to the list of Froberger attributions. Yet doing so may lead to overlooking crucial stylistic differences. Even among the works that Grimm attributes to Froberger, one, Suite 26 in B minor, strikes me as problematical on account of the relative brevity and seeming ordinariness of its first three movements. On the other hand, small touches in Suite 21 seem to me the sort of thing we could expect to find in an early work by Froberger. Starting in F major, already in m. 3 there is a tonicization of the relative, D minor. Yet at that point, in place of a straightforward cadence, we have a surprise harmony and an opening up of a higher register. Many early Baroque composers might have come up with the chromaticism that occurs here as c' moves to c#'. But the following 6/4-chord (m. 3, third beat), which at first seems like a mistake, required more imagination. Moreover, this leap into a higher register is not forgotten; the final cadence of the piece returns to the bb' (m. 14), placing it and its resolution in the upper voice. Similar final cadences, with the seventh of a dominant-7 chord in the top voice, also occur in Allemande 23 and toccatas 14, 15, and 18.

Froberger himself might have later wished to suppress these pieces, and how a group of them survived to be copied into Grimm's manuscript at the end of the century is unknown. From almost the opposite end of the century, and of Europe, we have a manuscript from the Chigi collection in Rome whose copyist has recently been identified as a pupil of Frescobaldi. Most of the contents of this source, known as Chigi 25, are short toccatas and capriccios. Their blanket attribution to Frescobaldi was doubted until Claudio Annibaldi identified the handwriting on a title page as that of the composer's son Domenico. Particularly unlikely to be Frescobaldi's, or so it had seemed, were three toccatas at the end of the manuscript, which are distinguished by their separate numbering and much grander dimensions. These were copied in the same neat hand as the rest of the music, by Frescobaldi's pupil Nicolò Borbone (ex. 11).

Example 11. Frescobaldi, Toccata prima, from Biblioteca Apostolica Vaticana, Chigi, Q.IV.25



The Swiss musicologist Christine Jeanneret has argued for Frescobaldi's authorship not only of these three toccatas but of other previously doubted pieces. Among the features of these pieces that made Frescobaldi's authorship seem unlikely, and Froberger's possible, is their clear division into brief sections (ex. 12). The sectional articulation of these pieces is indeed clearer than in the twenty-three toccatas that Frescobaldi published in two famous collections. Those, however, were relatively early works. The three toccatas from Chigi 25, like the manuscript as a whole, must date from near the end of Frescobaldi's career, perhaps even the period around 1640 when Froberger was studying with him in Rome. Whoever the composer, it might well have been unpublished pieces such as these, and improvisations resembling them, not Frescobaldi's printed toccatas, which inspired Froberger's first essays in this genre.

Example 12. Frescobaldi, Toccata terza from Chigi 25, middle sections



In fact a clear division into short sections can already be glimpsed in some of the toccatas of Frescobaldi's second book of toccatas, published in 1627. Also at odds with the style of more familiar works, however, is the relatively thin texture that prevails in these three toccatas. This type of writing is nevertheless characteristic of other works identified in recent scholarship as late compositions by Frescobaldi. Among these is an unpublished set of canzoni that contain one or two brief passages which recur in compositions of Froberger.³

These might be common formulas. That these canzoni or the three last toccatas in Chigi 25 might be early compositions of Froberger himself is implausible, given their preservation in unique copies from Frescobaldi's immediate circle of family and pupils. Froberger presumably knew Frescobaldi's published toccatas, but not necessarily works that existed only in manuscript. At a time when most keyboard playing was either improvised or unwritten, however, Froberger could also have learned a

³ Further discussion in my "Some Problems of Text, Attribution, and Performance in Early Italian Baroque Keyboard Music," *Journal of Seventeenth-Century Music* 4 (1998), online at http://sscm-jscm.org/v4/no1/schulenberg.html (para. 13.1).

⁴ Naomi Barker, in an unpublished talk given at the Sixteenth International Conference on Baroque Music (Canterbury, U.K.), July 2016, proposed that Froberger had the last three toccatas of Chigi 25 copied professionally for his teacher as a parting gift. But there is simply no evidence for this, and it seem unlikely that a composer who later presented calligraphic autographs to an emperor would have seen a need to hire another to copy his own compositions for a teacher.

great deal merely by hearing Frescobaldi's famous public recitals. These might have included improvisations similar to what was written in Chigi 25 and other Frescobaldi manuscripts.⁵

Not only their sectional construction, but also the expanded harmonic or tonal palette of these toccatas anticipates Froberger's music. The last of the three pieces, ostensibly in a transposed Mixolydian mode on C, spends much of its time in C minor, alluding to tonalities as remote as F minor and B-flat minor. These modulations, to use a somewhat anachronistic term, were presumably meant to be expressive. But like the chromatic inflections of earlier pieces, they occur suddenly, without being embedded within the deeper structural background that we find in later tonal music. A more modern type of tonality appears to be an important element of Froberger's expressive language in the suites and laments. For example, nearly every movement in these pieces is in binary form, with a true modulation at the double bar, usually to the dominant. Suite 24, another work found only in the Grimm manuscript, is the exception that proves the rule. Here each movement returns to the tonic at the double bar.⁶

The D major tonality of Suite 24 was still a rare and somewhat exotic key for a keyboard player in the 1640s. Froberger would include suites in D and even A major in later autographs, but that is as far as he would go in the sharp direction in such pieces. This might explain the failure to make a lasting modulation to the dominant in an early work. Although his later suites grow increasingly adventurous with regard to tonality, the old modes, together with the imitative polyphony with which they were associated, remained important for him as well as Frescobaldi. In their ricercars and other contrapuntal pieces, both composers were often quite strict in maintaining the identity of the prevailing mode, as recommended in counterpoint treatises of the time. Some pieces even limit entries of the subject to real answers. The first section of Froberger's Ricercar 4 inverts its subject, but both rectus and inversus forms appear at just two pitch levels, avoiding tonal answers and entries that involve the substitution of major for minor steps.

On the other hand, both composers do introduce chromaticism into many of these pieces. In several cases this extends to the use of the ancient Greek chromatic tetrachord or the invention of what are, in effect, new modes. In this regard Froberger goes beyond Frescobaldi, who avoids chromaticism in the initial form of his imitative subjects. Only Froberger opens a piece with the chromatic tetrachord, making it the basis of the principal subject in his Canzona 2 (ex. 13).

This is Claudio Annibaldi's suggestion, and it seems reasonable, although I am not convinced by his view that the three toccatas are of a type that was allegedly constructed upon a cantus firmus ("Froberger in Rome: From Frescobaldi's Craftsmanship to Kircher's Compositional Secrets," *Current Musicology*, no. 58 (Spring 1995): 13). It was Murray Bradshaw who proposed that Frescobaldi as well as Froberger constructed toccatas around a so-called ideal cantus firmus, which was taken from a psalm tone (*The Origin of the Toccata* (N.p.: American Musicological Institute, 1972), 79–81). The idea that a simple chant melody could function as a sort of Urlinie, providing the middle or background structure for a toccata or other improvisatory piece, is appealing. But the generic melodic character of psalm tones makes it possible to fit them to many pieces, without conclusively demonstrating that they provide the structural framework claimed for them. The toccatas in Chigi 25, moreover, make so many remote modulations and contain so many distinct sections that I cannot see how they can be reduced to a simple melodic line in a single mode.

⁶ This archaic feature, shared with many dances by Frescobaldi and the older French lutenists, is also one of several commonalities with Froberger's famous set of variations on the song known as the Mayerin. The latter, which he included as Suite 6 in his 1649 autograph, might have followed Suite 24 by only a short period.

⁷ One exceptional piece by Frescobaldi does allude early on to the chromatic tetrachord (the *Capriccio cromatico con ligature al contrario*); Frescobaldi also uses the chromatic tetrachord as a countersubject in the *Capriccio di obligo di cantare la quinta parte*.

Example 13. Canzona 2 (1649), opening, from "Libro 2"



Only Froberger, morever, composed ricercars that appear to be in F-sharp and even C-sharp minor. In fact these pieces, preserved only his imperial autographs, are neither in those keys exactly nor in transposed forms of any traditional mode. Rather they represent an invented mode in which the note above the final may be either a whole or a half step higher. The result is an ambivalent tonal type that is alternatively a transposed Phrygian and a transposed Aeolian mode (ex. 14).

The expression tonal type refers to some of the seventeenth-century tone structures that stand between the modes of Renaissance polyphony and common-practice tonality. See Harold S. Powers, "Tonal Types and Modal Categories in Renaissance Polyphony," Journal of the American Musicological Society 34 (1981): 204-32; and Walter Atcherson, "Key and Mode in Seventeenth-Century Music Theory Books," Journal of Music Theory 17 (1973): 204–32. The latter introduces the term "pitch-key mode" on p. 216 to describe the systems used to place keyboard pieces (but none of Frescobaldi's in any of the original sources) in "tones." The "tones" include a number of the church modes as well as certain of their transpositions; in such a system the Dorian mode placed on G (with one flat in the signature) might be designated as the second tone. Powers's terminology is extended to the music of Frescobaldi (and also that of Corelli) in Alexander Silbiger, "Tipi tonale nella musica di Frescobaldi per strumenti a tastiera," in Girolamo Frescobaldi nel IV centenario della nascità, ed. Sergio Durante and Dinko Fabris (Florence: Olschki, 1986), 301–14. Silbiger's discussion is intentionally limited to the "suoni scritti, non dei loro valori fonici" (p. 301); thus it is of limited relevance to the present inquiry, although it appears to confirm the view taken here that Frescobaldi's "tonal types" are not transposable. That is, the particular set of "suoni" used in a given piece is specific to each *finalis*, a characteristic more of modal than of tonal composition. Similarly limited to questions of gamut and scale—available pitches and the triads built upon them—is Loris Azzaroni, Ai confini della modalità: Le toccate per cembalo e organo di Girolamo Frescobaldi (Bologna: CLU, 1986).

Example 14. Ricercar 6 (ca. 1658), opening, from Vienna, Österreichische Nationalbibliothek, Mus. Hs. 16560 ("Libro 5")



These chromatic experiments must, again, have been understood as having expressive connotations. But I find the results remote from the subjective expression found in Froberger's suites and laments. Rather, as in modal experiments undertaken at about the same time by certain Roman composers of vocal music, the manner of expression or the sensibility of these pieces strikes me as deliberately ostentatious: artificial and rhetorical, rather than organic. Froberger is likely to have known of a sort of polymodal oratorio by Pietro Della Valle, performed in 1641 at Rome. This and several comparable

⁹ With its purposeful use of five ancient modes, this may have resembled a work by Froberger's imperial colleague Giovanni Felice Sances, whose dramatic dialog *Ermiona* was performed at Padua in 1638. From these examples, Patrizio Barbieri concludes that there existed a "stylus metabolicus," or an Italian enharmonic genre that can be heard in music from Gesualdo to Rameau ("Pietro della Valle: The *Esthèr* oratorio (1639) and Other Experiments in the 'stylus metabolicus,' with New Documents on Triharmonic Instruments," *Recercare* 19 (2007): 73–124). As a visitor to Rome at precisely the time of these experiments, Froberger might have been interested not only in the expressive possibilities of these modes but in experimental keyboards that were evidently meant to accompany them. If, however, his ricercars with multiple sharps were intended for such instruments, there is no indication of this in their unique source. Nor do these or any of Froberger's more conventionally modal pieces in the contrapuntal genres resemble his programmatic dances and laments. These were not meant to serve as theatrical representations of legendary figures from

vocal works, like Froberger's contrapuntal pieces on chromatic subjects, might have seemed learned, even scientific, at the time, constituting genuine experiments intended to test the utility of ancient modes or genres to instill affects or passions in an audience. Yet Froberger's early pieces rarely, if ever, modulate between remote modes or tones in the manner of Della Valle's so-called "metabolic style," as described by the Florentine theorist Giovanni Battista Doni. 10

In vocal and theatrical music, a plot or a verbal text can maintain coherence in the absence of a governing tonal scheme. Not so in instrumental music. Froberger himself might have had only the theoretical language of Doni, with its allusion to the ancient modes, to explain a sudden turn to F-sharp minor just before the double bar in the Meditation of 1660 (ex. 4). Yet this late piece is genuinely tonal in a quite sophisticated way, balancing an early modulation to the subdominant with this later turn to the mediant. Froberger never changes key signature within a piece, the most outward sign of Doni's tonal "metabolism." The movement as a whole is a symmetrical binary form. Whatever the expressive effects that Froberger or his contemporaries might have associated with antique modes and chromaticism, when he composed an actual lament he employed a musical language derived from recent French lute music, not the learned antiquarian style of his older Roman contemporaries.

Even Frescobaldi's dances contain a few apparent echoes of French lute music. But only the title of one piece even hints at anything autobiographical. This piece, the famous aria with variations La Frescobalda, is not especially expressive or ambitious. Yet taken as a whole, the keyboard music of Frescobaldi and Froberger, who were separated by thirty-three years, does reflect an ongoing transition from late-Renaissance virtuosity and mannerism to a style that placed greater emphasis on subjectivity or expressivity.

The Baroque has also been viewed as a period that saw the breakdown of the stylistic homogeneity of the Renaissance. This is an over-simplification, yet it is hard not to see in Froberger a deliberate cultivation of stylistic extremes. His autograph manuscripts juxtapose the intellectual virtuosity of his contrapuntal pieces against the very personal and autobiographical programmatic pieces. It is tempting to see this as reflecting his own life as a wanderer across Europe, traveling from Rome to London and from Vienna to Paris, during a period of great hardship, warfare, and devastation. Would it be anachronistically romantic to see in his output a sort of shattered subjectivity, a conscious division of the self into separate realms, which is reflected in very different types of music?

[Before closing, I would like to consider whether any of the stylistic developments I have been discussing can be related to the emerging science of the period. Froberger personally knew Athanasius Kircher, Constantijn Huygens, and perhaps others on the margins of seventeenth-century science. The drawings accompanying the scores of Froberger's pieces in the imperial manuscripts might have represented interior images formed within the mind according to Cartesian theories of perception. But those theories were hardly scientific in the modern sense, and there is no evidence that Descartes or other contemporary philosophers knew Froberger's music. Emperor Ferdinand III evidently took an interest in a machine for composing music, which Froberger delivered and demonstrated for him. One must wonder whether the emperor did not also own some special harpsichord for playing music in exotic keys, such as Froberger's ricercars. The collecting of unusual instruments, or of Froberger's music, was of a piece with the gathering of curiosa and other artifacts, therefore comparable to contemporary endeavors that involved the assembly and study of specimens of various sorts. But the adaptation of musical instruments for playing in newly invented modes or ancient Greek genera forms only a vague parallel with the creation of new scientific instruments such as the telescope for

ancient myth and history, but rather the experiences and emotions of a living person, and they do so in part through a tone structure that is much closer to common-practice tonality.

¹⁰ Barbieri, 93–94, mentions further examples, including Gesualdo, Libro 6, no. 7, and later ones by Carissimi and Heredia (cited by Kircher) as well as Michelangelo Rossi (the madrigal "O prodighi di fiamme").

observation and experimentation.

[On the other hand, the notion that certain compositions constituted reproducible experiments, reflecting the same type of thought as actual science, might be tenable. Galileo Galilei was, after all, the son of an avant-garde composer. The works of Vincenzo Galilei, like Froberger's, were not scientific experiments with quantifiable results. They would not have been reproducible without a type of consistency with regard to musical text and performance practice that was uncharacteristic of the time. Indeed, one of Froberger's patrons informed Huygens that only someone who had heard Froberger play could successfully repeat his more expressive compositions. But of course people did continue to play Froberger's music, in which precise notation and detailed rubrics explain the proper performance of his most expressive pieces. Paradoxically, the creation of fixed texts for highly subjective music, rendering individual emotional experience reproducible, forms an unexpected parallel with the experiments of Galileo and other contemporary scientists.]