

Vincenzo Galilei: Sixteenth-Century Intellectual

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Historians of science have an interest in Vincenzo Galilei (1520-1591) because of the fame of his son Galileo Galilei (1564-1642) and because of his own important position in the intellectual history of the era. His major interest was music; he became an accomplished amateur instrumentalist, vocalist, composer, and music theorist. His favorite instrument was the lute, for which he wrote some one thousand compositions. Galilei's family belonged to the minor nobility of Florence, and in spite of seemingly perpetual financial problems, young Vincenzo received the typical education of the upper classes of his time which included mathematics, philosophy, Greek, and Latin.¹ At some time before 1565 he came under the influence of Giovanni Bardi (1534-1612), a wealthy Florentine nobleman, amateur musician and composer. Bardi became Galilei's sponsor, enabling the latter to take up the serious study of music as a life-long avocation. For a time in the early 1560's, Galilei studied music theory and history as a pupil of Gioseffe Zarlino (1517-1590), Venetian musician and theorist.² During this same period Galilei married, and in 1564 Galileo, the eldest of his seven children, was born.

In 1568 Galilei completed the first of a number of works on music history and theory. This treatise, entitled *Fronimo*, sheds considerable light on the form of tablature employed by sixteenth-century Italian lutanists and the basis they used for tuning their instruments. Bound in one of the three extant copies of the work is a bulky manuscript of compositions which "is probably the most valuable document of that preliminary stage of accompanied solo song out of which true monody developed."³ Galilei next planned a synopsis, paraphrase, and enlargement of Zarlino's *Istituzione Harmoniche* in which the author expressed a desire to revive ancient Greek styles of vocal music. Galilei, while attempting to investigate the history of the subject at greater depth, became confused by conflicting testimony he found in the various Latin translations of the harmonic works of Ptolemy, Aristoxenus, Plutarch, and others and discontinued the work.

Girolamo Mei (1519-1594), Florentine scholar of Greek and ancient music, then became influential in guiding Galilei's studies. Mei compared the abstract and remote polyphony of the day "to the vain efforts of several men straining to pull down to the floor a stable pillar by tugging at it with ropes from opposite directions, failing despite all their forces to budge it." The association of Mei and Galilei, which included a number of lengthy letters and personal consultations, led Galilei to establish a goal of rescuing vocal music from the abyss into which he thought it had fallen and to revive it to the effectiveness it had during classical antiquity.⁴ In his major effort to achieve this goal, the *Dialogo della musica antica e della moderna*, the first of a series of polemic dialogues, he gave vent to his feelings about the state of contemporary music and the theories of his former master, Zarlino, on tonic relationships, tunings for instruments, and contrapuntal music.⁵

An informal intellectual group known as the Florentine "Camerata" provided major support for Galilei. Giovanni Bardi was the spiritual leader, patron, and promoter of the Camerata during its most active period. Bardi's son, Pietro (1570-1660), described the group as composed of the most celebrated men of the city who gathered at his father's house as sort of a continual intellectual academy. There, the noble youth of the city were instructed in poetry, astrology, and other sciences as well as in music. The younger Bardi praised the great intellect of Galilei and described the efforts of the academy to recover the music of the ancients insofar as possible and to raise it in some degree from the wretched state

into which it had fallen. Bardi told also of how Galilei introduced the new *stile rappresentativo* (illustrative or declamational style of vocal music), demonstrating this technique to the group using some of his own compositions.

Pietro Bardi listed other associates of his father's group including Giulio Caccini (ca. 1545-1618), a young musician of rare talent, and Jacopo Peri (1561-1633, singer, organist, and composer of some repute. Peri and Caccini, taking up the *stile rappresentativo* where Galilei left off, carried the new art further forward into modern opera. Bardi related that the story of *Dafne*, written by Ottavio Rinuccini (1562-1621) and set to music by Peri, was the first poem to be sung on the stage in the new style.⁴ Peri and Caccini each set to music the "libretto" of the *Euridice*, the earliest opera for which the music is still available. This latter work was completed in 1600, less than two decades after Galilei gave his demonstrations in the new *stile rappresentativo*.⁵ It becomes clear that baroque opera developed at a rapid pace within the group associated with Galilei in the Camerata.

In considering Galilei's career from the viewpoint of the historian of science, a certain measure of information is discernible that links him to the science of his time. Perhaps most striking is the fact that his eldest son, Galileo, became one of the giants of seventeenth-century science. Though the family had few financial resources, young Galileo received an education that included Latin, Greek, music, mathematics, and art. Of equal significance perhaps is the intellectual atmosphere of the Florentine Camerata of which Galilei was a prominent member. Already recounted is Pietro Bardi's description of the noble youth of Florence in the Camerata and the instruction they received there. Nino Pirrotta, a modern scholar, has tentatively established the period from about 1576 to 1582 as the period during which Bardi's Camerata was most active.⁶ Galileo grew to manhood during that period and in the light of his father's interest in the arts and sciences and his efforts to provide his son with a good education, it seems believable that young Galileo participated frequently in Camerata discussions.

That Galilei was familiar with Pythagorean, Aristoxenian, and Ptolemaic mathematics is established by his discussions of tonic systems based on those studies. Furthermore, in his thorough study of ancient sources in preparation for his published and manuscript works, he could hardly have avoided frequent encounters with the natural philosophy contained in those sources. In his discussions of tonic relationships, Galilei criticized contemporary musical science based on the systems of both Pythagorean and Ptolemaic mathematics. He concluded that mathematically based tunings were unacceptable and strict adherence to them produced discordances unpleasant to the ear, especially in vocal music. In their stead he advocated an empirical tuning similar to that described by Aristoxenus of Tarentum in his *Harmonics* (4th cent. B.C.) which only approximated equal temperament.⁷ Neither Galilei nor Aristoxenus were concerned with accommodating their ideas on how music should sound to any rational, mathematical system, and through this idea Galilei made a small contribution to turning aside the powerful structure of Aristotelian cosmology, still of profound influence in the sixteenth century. Similarly, in his attempts to establish an empirical basis for tonic relationships, can be observed a phenomenon that has become characteristic of intellectual activities of the modern age. In contrast to his own and preceding eras, he attempted to establish a dichotomy between mathematics and his own discipline, music. The educated men of his time were generally well-versed in all the arts and sciences, and the tendency seems to have been for them to treat all knowledge as one entity rather than in the compartmentalized manner of the modern era. Essentially he was attempting to separate the provinces of mathematics and art and to treat music as a subjective art rather than as part of a rational cosmological system.

Galilei's career shows that he was a bridge between Renaissance and modern music and that his ideas on vocal music were significant in the development of modern opera. He emerges as a typical sixteenth-century intellectual whose interests included diverse areas outside his own avocation. His insistence on empiricism in music perhaps contributed to the overthrow of Aristotelian philosophy and science. Likewise, we can speculate that he provided part of the intellectual backdrop against which his son, Galileo, worked so effectively in the physical sciences in the following century.

NOTES AND LITERATURE CITED

¹Giovanni Batista Clemente de Nelli, *Vita e commercio letterario de Galileo Galilei, nobile e patrizio fiorentino, mattematico e filosofo sopraordinario de'gran duchi di Toscana, Cosimo e Ferdinando II* (2 vols. in 1; Losanna: n. p., 1793), I, 7, 9-10, n. 1; W. S. Rockstro, "Lute Music," *Grove's Dictionary of Music and Musicians*, ed. Eric Blom (9 vols., 5th ed.; London: Macmillan & Co., Ltd., 1954), V, 440.

²Vincenzo Galilei, "From the *Dialogo della musica antica e della moderna*," *Source Readings in Music History from Classical Antiquity through the Romantic Era*, ed. and trans. Oliver Strunk (New York: W. W. Norton & Co., Inc., 1950), pp. 303-04, 303, nn. 4-5.

³Alfred Einstein, "Vincenzo Galilei and the Instructive Duo," *Music and Letters*, XVIII (1937), 361. The full title of the work is: *Fronimo di Vincenzio Galilei Fiorentino, nel quale si contengono le vere, et necessarie regole dell' intavolare la musica nel liuto, posto nuovamente in luce, et da ogni errore amendata* (Vinegia: Girolamo Scotto, 1568).

⁴Claude V. Palisca, "Girolamo Mei: Mentor to the Florentine Camerata," *The Musical Quarterly*, XL (1954), 3-5, 16.

⁵Galilei, "From the *Dialogo* . . .," pp. 302-05.

⁶Letter of Pietro Bardi to G. B. Doni, December 16, 1634, quoted in Nelli, I, 9-11, n. 1.

⁷Donald J. Grout, *A Short History of Opera* (2 vols.; New York: Columbia Univ. Press, 1947), I, 51.

⁸Nino Pirrotta, "Temperaments and Tendencies in the Florentine Camerata," trans. Nigel Fortune, *The Musical Quart.* XL (1954), 170.

⁹Claude V. Palisca, "Scientific Empiricism in Musical Thought," *Seventeenth-Century Science and the Arts*, ed. Hedley H. Rhys (Princeton: Princeton Univ. Press, 1961), pp. 120-21, 124.