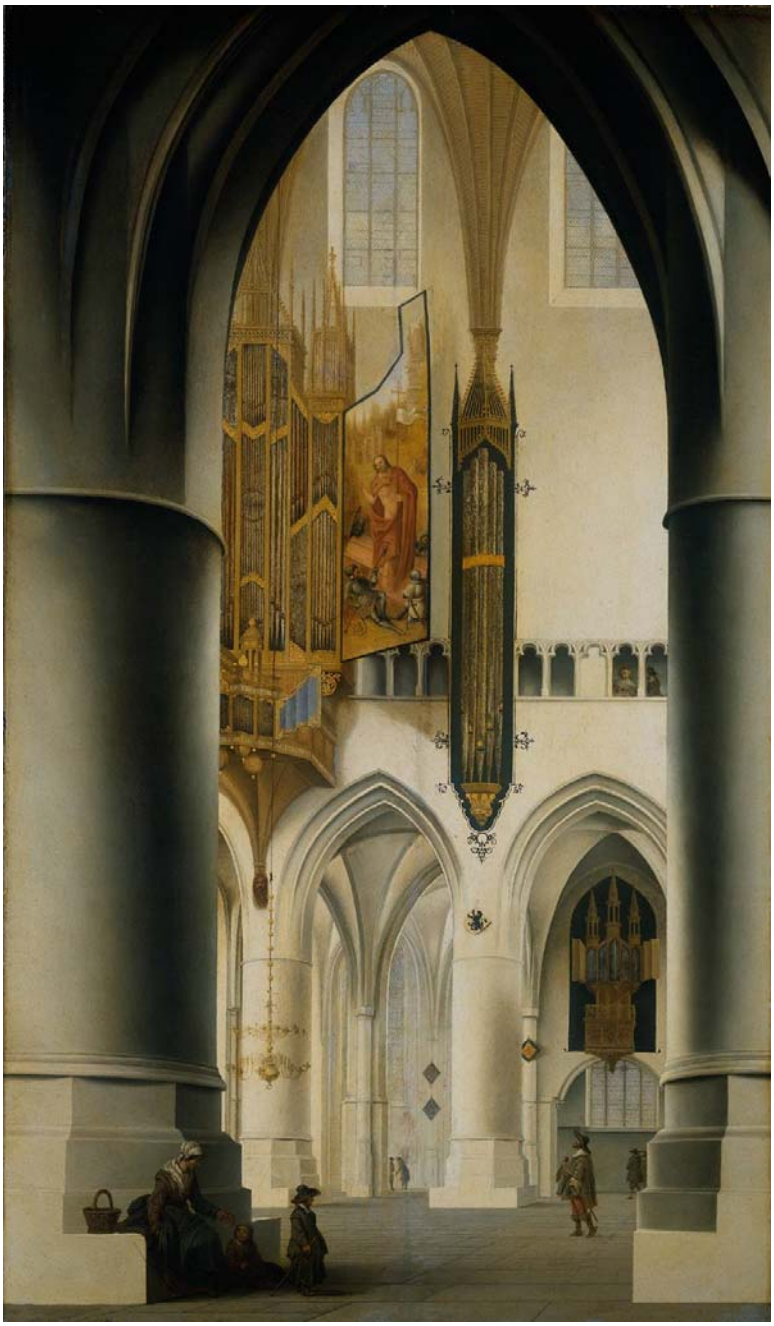
A Historical Perspective

by Professor Fenner Douglass, University Organist, 1976

Of all the musical instruments in our heritage, the organ lends itself most readily to historical inquiry and investigation. The organ has yielded to countless modifications and has been adapted to an extremely wide range of practical uses from before the time of Christ to the present day. For example, viewed from the perspective of size, organs have been made small enough to fit inside a clock or to carry on one arm and large enough to control the speech of more than 10,000 pipes. In terms of musical functions, the organ has served a multitude of purposes, being used for entertainment at dances or circuses, for folk music played in the open air, or for the accompaniment of singing. The most lavish and musically productive organs were developed under the ægis of the Western Church and within the acoustical spaces of Gothic buildings. It is that particular facet of the instrument's historical and technical development that has inspired the new Flentrop instrument in Duke University's great neo-Gothic Chapel.



The art of organ building was highly advanced by the 15th century, a period which witnessed the earliest flowering of independently composed organ music. This is evident from the study of early organs in Gothic churches. As an example, there is the magnificent 1636 Saenredam painting of a Gothic organ in Haarlem's St. Bavo Church.

The painting shows an instrument that was already centuries old and yet of an architectural grace and beauty not to be exceeded in later stylistic periods. There is little doubt that the tonal structure and tuning of these early instruments were in harmony with the sophisticated musical requirements of their time.

The ancient organs surviving from any musically productive period provide the means for understanding that music, and there are still many antique instruments that can be studied. But it is ordinarily very difficult to discover their original qualities, because restoration in the strict sense was unknown until recently. Numerous renovations have altered ancient instruments, giving them fuller sonority, stronger wind, a different tonal palette, or perhaps only a facelift. Some early facades of Gothic and Renaissance organs have survived, but virtually nothing remains from their interior. One notable exception is found in the Church of San Petronio in Bologna, where a late-15th-century organ was surrounded a century later by a new outer shell in baroque style, simply to bring it cosmetically up to date. The instrument itself has remained undisturbed inside. The breathtaking old Gothic instrument of Haarlem in Saenredam's painting survived only until the early 18th century, when the wealthy burghers endowed their church with a magnificent new organ of monumental dimension situated on a new gallery. This organ, played by Handel and Mozart, exists today even though it has been

subjected to several internal purges designed to modernize it.

The placement of great organs in Gothic buildings eventually proved to be a problem with musical implications. The rood screen position and the side wall on the nave favored in Renaissance times lost their practical appeal as the instruments grew bulkier and heavier. The “grandes orgues” of the Golden Age in the 17th and 18th centuries had only one easy and accessible location — the “liturgical west end” over the main entrance. This was not necessarily the ideal acoustical vantage point for music; the side wall of the nave near the crossing could offer greater clarity. But large baroque organs with their 16' and 32' pedal sections were simply too massive to be supported elsewhere in the building. To be sure, the transept offered similar space (as at Reims cathedral, where the west windows were especially numerous), but there were obvious acoustical drawbacks there. Hundreds of new galleries of wood or stone were constructed, under which the faithful still pass today and upon which the instruments were erected that inspired the organ’s greatest treasure of composed music.

It is an error to generalize by referring to modern organs as “baroque” or “romantic.” A “baroque” organ must have been constructed during the historical epoch we choose to identify as the Baroque Era, roughly between 1600 and 1750. A “romantic” organ derives only from the 19th century. Organs of the present century might be called “postromantic,” “neoclassical,” “neobaroque,” or nondescript. But in fact neither “baroque” nor “neobaroque” tells us much of anything about the sound of a particular instrument. There were marked contrasts during the 17th and 18th centuries among instruments being made in Italy, Spain, France, Germany, or even tiny Holland. So, an instrument of today which draws its inspiration from prototypes of that period would properly be labelled “French classical” in style, or “mid-17th-century Northwest German,” and so on. Unquestionably, the most respected builders of this century will continue to emulate the noble sounds of organs surviving from past epochs by creating instruments that bring back to life the music of the organ’s great masters: Sweelinck, Scheidt, Frescobaldi, Buxtehude, Couperin, Bach, Franck, and many others.

Clearly, as the organ has changed in the last 500 years, so have musical taste and liturgical requirements. The instrument was influenced by continuous crosscurrents of musical practice over widely separated areas of Europe. During the 17th century, for example, there was an important exchange between people of the Low Countries and Italy, and thus there are stylistic traces of Frescobaldi’s art in the music of the North German composer Buxtehude. However, Italian organs differed markedly from German, and both were unlike instruments being built in Paris; but all three types are classified under the general category of “baroque.”

Innovation in organ building was dramatically hastened by the Industrial Revolution. Organs no longer had to be manufactured in the churches and could be built in factories, where mass production was a feasible economy. The most progressive organ builders of the 19th century were fascinated by the applicability of various inventions to the organ, and displayed their latest models at frequent industrial exhibitions. Great value was attached to scientific data, standardization, and absolute evenness of dynamic power over the entire range of pitches. The aim was for uniformity where previously the irregularity of the handmade product had prevailed. International standard pitch was established (1859), and equal temperament was universally accepted. The organ was made to imitate that most nearly perfect of all instruments, the symphony orchestra. Many years earlier, the 17th-century LeBègue had published charming little pieces called “Simphonie,” but now the romantic “simphonie” was born, resembling a major orchestral work of many movements. The first and greatest creation of this new genre was published by César Franck in 1862.

The most innovative contrivance since the invention of stops was developed by George Barker. His pneumatic machine was applied for the first time by Aristide Cavaillé-Coll at St. Denis in 1841. The player’s fingers were no longer required to exert all the energy for pulling the pallets. Pneumatic motors, tripped by the player in depressing the keys, did the actual work of operating the mechanism. This was most welcome on large organs and for coupling divisions. A hundred stops could now sound all at once while the resistance of the keyboard did not change at all. The instrument had grown with the times. Still basically a tracker, or mechanical action instrument, it had been transformed by pneumatic assistance to a modern marvel. But the majority of instruments built in the 19th century were small to medium in size, from about 5 to 25 stops on one or two manuals with pedals, and such organs did not need the aid of the Barker machine.

Pneumatic assistance was a reasonable expedient rooted in the timely demand for great sonority. The source of energy was the instrument’s own wind supply, utilized for a new purpose. But once electricity became integral to organ design, drastic

changes occurred. At this point the internal relationships so important to the musical function of any instrument were thrown askew, and organs of all sizes would ultimately be the victims.

The step was relatively simple from pneumatically operated actions in large organs to electro-pneumatically operated actions. In 1868, when the first large electro-pneumatic instruments appeared simultaneously in France and the United States, they did not differ markedly from their pneumatic models. But by the first decade of the 20th century, electric cables and contacts had bean introduced as substitutes for all the traditional mechanical connections within organs of all sizes. Thus the instrument was granted freedom from all its previous limitations, paving the way for gross transmutation and abuse. To understand the hideous impact of electrical energy on organ building, just imagine a violin with an electrically operated bow or better yet, a pianoforte with electrical wires connecting the keys to the hammers, thereby enabling the player to remain on stage with his keyboard and pedals, while the rest of the instrument might be elevated above the heads of the audience or quite out of sight, connected only by a cable. Fanciful and foolish as it seems, this was precisely the plight of the organ. As soon as electricity made possible the physical disembodiment of the organ's functioning parts, persuasive argument appeared for doing the surgery. Architects were quite comfortable removing the instrument's increasing bulk to enclosures and chambers, while leaving the player and console in view. The detached console, innocently introduced in tracker organs, was discovered to answer the problems of the player-conductor. A special course was introduced to curricula in Church Music: "Conducting from the console." A typical violation of natural laws for music making was the immense Skinner organ installed in the 1920s in Cleveland's new Severance Hall. The console, connected by a flexible cable, could be rolled on or off stage, while the wind supply was in the basement and the pipes and mechanism high above the proscenium arch. As he played among the members of the orchestra or chorus, the organist heard nothing of the organ, nor did most of the audience for that matter. The pipes' sounds travelled over their heads to the back rows of the balcony, and the hapless player fingered aimlessly over his keyboards and pistons.

There was fascination in the discovery that a single player could control an instrument whose parts were located in remote corners of a great church. The Antiphonal, Echo, Dome, and Tower Organs had their day. But even more depressing to the instrument's fading capacity was the fact that the ancient art of organ building was all but given over to electrical engineers, amateurs, and sloppy repairmen. Anyone could concoct an instrument from supply house parts. Even the "reputable" builders destroyed fine old mechanical action organs of the last century, replacing them with electro-pneumatic or direct electric action instruments with a life expectancy of about 40 years at best.

In this sorry state the organ had clearly lost its physical identity and its historical relationship to the literature. Meanwhile, the rediscovery of early music was slowly gathering momentum during the second and third decades of this century. A few American organists in the 1930s travelled to hear ancient European organs. Like Albert Schweitzer, they were touched with their magic, but none could find the real key to the performance of the music of the great masters. It was not until after World War II that the great wave of musical tourists and Fulbright scholars made the circuit through Germany, Holland, France, and Italy. These zealots came home demanding a change — and change they achieved. Their unfocussed search for authenticity, mingled with reluctance to forego "modern improvements," brought forth an odd series of strangely distorted instruments best characterized as "all-purpose" or "neoclassical." Despite the unmerciful lack of sonority and blend in such organs, a widespread belief still lingers that somehow the musical features of myriad styles of organs should be evoked to season the tonal soup of a great new type — the 20th-century eclectic organ.

It has been demonstrated repeatedly that the eclectic approach in organ building, whether tracker or electro-pneumatic, separates the instrument conclusively from its historical relationship with music. This is the very precious affinity that we continually urge European Monument Commissions to preserve. While the "back to tracker" movement of the 1950s, 1960s, and even the 1970s may answer partially the musical need for recapturing certain techniques in organ building, it also illuminates the larger issue of whether or not the organ literature can long survive in the shapeless and rude tonal world of the modern eclectic organ.

When architect Horace Trumbauer addressed himself to the question of style for Duke University's new chapel, completed in 1932, he created a masterpiece of period architecture, emulating related stylistic elements of English and French Gothic churches. The building was no artful deceit. It was the real thing, right down to every hand-carved detail of stone construction. When access to the new organ gallery was recently cut through from the spiral stair at the core of the pier in the

rear of the church, the cut material was not reinforced concrete, but stone.

Following the example of the building, it might have been suggested in 1932 that the plan for Duke Chapel's first organ should reflect the "period" approach. There were hundreds of European instruments in ancient churches to serve as models: neo-Gothic 19th-century instruments, baroque organs of all types, and even a few from the 15th or 16th centuries. But, as we already observed, the time was not right in the 1930s. No one was then prepared to forego modern comfort for deeper insights to a musical world long lost to the American ear. It was in fact a stroke of rare good fortune that when enlightened donors of the 1970s offered Duke a monumental new organ, the best international level of understanding in organ building had already settled firmly on the period concept. How fitting and artistically consistent that Duke Chapel should become the musical sounding board for an organ rooted solidly in the great liturgical traditions. The need for a seasoned artist-builder was met with the choice of Dirk Flentrop, a native Lowlander experienced in the restoration of ancient instruments, and a man with a lifetime of exposure to the crosscurrents between French and German national styles.

There was no whimsical trait to the new Flentrop organ. Like the modern harpsichord of surpassing quality, a violin, recorder, or pianoforte, it owes its physical outline, its interior layout, materials and techniques of construction, even its decoration, to an established historical prototype for which a great literature exists. The intention is to reproduce music of a particular period and scope as faithfully as might be possible in the 1970s. The organ will clearly sound its best for the music of Johann Sebastian Bach and his contemporaries, but no one should be surprised to hear it used for works of Sweelinck or Titelouze, whose music is more than a century older than Bach's, or for works of Mendelssohn or Franck, more than a century later. The instrument was freed from virtually all corruptive influences deriving from periods later than the early 18th century. Thus, a musician will not expect to change stops electrically, to set pistons before playing, to couple the manuals without a commensurate response in the key action, to open or close Venetian swells, to operate distant antiphonal divisions, or to find console measurements in conformity to the latest standards of the American Guild of Organists.

Indeed, countless costly "sacrifices" have been made to produce a true "period" organ. Just as Trumbauer required the piers of the building to be made of stone rather than concrete, so also is this organ made only of solid wood, rather than plywood, steel, fiberglass, or plastic. To achieve resonance, musical articulation, balance in the wind, cohesion of ensemble, and a rich visual presence, the instrument has been given a self-supporting mahogany case, solid conduits for the wind, cuneiform bellows, suspended key action, wooden rollers, cedar trackers, oak stickers and squares, a gallery of solid oak, and hand-carved decorative pipe shades finished with gold leaf. The architectural proportions of the two cases are the result of a tonal design appropriate to the size and acoustical properties of the Chapel's interior space. In other words, all decisions on materials, scalings, and distribution of pitches among the stops within the case and on the organ front are incapable of being separated from their effect on the external appearance of the whole. Likewise, the gallery, which was designed and constructed in Durham, articulates harmoniously with the physical requirements of the classical concept governing the organ, built in the Netherlands. Architecturally and acoustically, the gallery is an extension of the instrument itself. To achieve such a just adaptation of all the parts to one another has called forth the combined talents and foresight of the University Trustees, the campus administration, the organ builder and his entire force of artisans, the University architect, the musicians, the acousticians, the architect of the gallery, and a host of engineers, stone workers, contractors, carpenters, carvers, and painters. What place would there be in such a scheme for lack of unity or concessions to the sapless meagerness of the all-purpose approach?

Let the future determine the durability of the basic æsthetic thrust. After 50 years, the instrument will hardly be broken in. For the present, we thank the Mary Duke Biddle Foundation for demonstrating that the organ is more than a replica from a glorious past. It is an instrument for contemporary expression. Because of the Foundation's generosity, the first work composed for the new instrument is Iain Hamilton's A Vision of Canopus. Like the organ for which it was written, the work's internal structure is basically simple, but enriched with intricately related textures relying on the organ's extremely wide range of dynamics and timbre.

Irving said, "In America literature and the elegant arts must grow up side by side with the coarser plants of daily necessity." Let this organ remind us that there was in the Pythagorean quadrivium a place for music, and among the fine arts, for architecture. As this instrument is heard for services and concerts week after week it will convey to its students and the

outside world a message immune to timely fashion, that “the adaptation of things in the natural world to the uses of life” may occasionally produce a lasting and beautiful work of art.