What Is Past Is Prologue

by James G. Ferguson, Jr., Duke Chapel Renovation Committee, 1976

In a recent set of public remarks, E. Power Biggs commented that the organ's "past is its future." It is difficult to find a more apt illustration of this statement than the organ program at Duke. To explain this aptness, however, it is necessary to begin with the construction of Duke Chapel.

Built in the final days of the Beaux-Arts Gothic revival, the Duke University West Campus is a magnificent testimony to the æsthetic grandeur of the vision of three men — James B. Duke, Benjamin N. Duke, and Horace Trumbauer, the architect. Indeed, one art historian has said that the West Campus reads more as a baroque composition, so ambitious is its scope. Those familiar with the history of Duke University know of the centrality of Eruditio and Religio to James B. Duke — they were in a sense the patron saints of the University. Thus it was altogether appropriate that the focus of this neo-Gothic complex should be a majestic chapel, just as a cathedral or abbey church would have been the heart of a medieval monastic complex.

The fact that the Chapel was built in the 20th century (1930–1932) instead of the 13th century, however, begins to complicate our history. Ironically, one of the structural advances which made such buildings as the Chapel possible also seriously interfered with the musical integrity of the organ. The widespread use of Catalan vaulting techniques meant that two or three courses of lightweight ceramic tile replaced the heavy stones used in the webbing of medieval vaults. In turn, reducing the load of the vaulting made it possible to use solid limestone piers as supports without resorting to the use of such nonmedieval devices as reinforcing steel. Unfortunately, this concern for structural authenticity did not extend to the acoustics of these neo-Gothic buildings.

Because of the primitive state of public address system technology there was no way to make the acoustical splendor of these vaulted spaces compatible with intelligible human speech. That which was vital to sacred music was the nemesis of the spoken word. Thus, after considerable experimentation, the Guastavino company developed Akoustolith, a composition absorptive stone tile which was bonded to the structural tile used in the vaulting. The spoken word became intelligible, and music lost liveliness and clarity.

Such was the Duke Chapel as the Æolian Company designed the first organ for the building — a banquet for the eyes and meager fare for the ears. Compounding the acoustical problem was the fact that before the Æolian Company became involved, the decision to install the organ in two immense chambers on either side of the chancel had already been made. Small openings were provided behind the mute chancel organ facades to allow the jumbled sounds of the great Æolian organ to spill into the chancel and nave. (There must have been an awareness of the superior placement now enjoyed by the Flentrop, because an "antiphonal" division of the Æolian was previously located there.) In a vain effort to compensate for the musical shortcomings of the acoustics, the organ builders were forced to resort to voicing the instrument on such high wind pressures that it lost all but the most rudimentary articulation. This lack of articulation combined with the invariability of an electro-pneumatic playing action led to a musically unsatisfactory state of affairs where the 122-stop behemoth was at its best only when most of the stops were drawn on. Even at this, recital-goers were always told by the program that the "Æolian organ can be heard to its best advantage at the front of the nave." Even high wind pressure and exaggerated registration were no match for the Akoustolith tile.

That the Æolian attracted such a wide following over the years is due to the tireless efforts of Mildred Hendrix, Chapel Organist until her retirement in 1969. Not only was she able to cope with the increasing unreliability of this organ, but she was also sensitive to its tonal idiosyncrasies and made it perform to its best potential throughout the years. It was also during Mrs. Hendrix's tenure that the Chapel organ program began to develop. Recognizing that the Memorial Chapel was used for many smaller services, she and James T. Cleland, then Dean of the Chapel, set about to secure an instrument for it as well. With the assistance of the Mary Duke Biddle Foundation, a contract was signed with the Holtkamp Organ Company of Cleveland and the instrument was installed in 1969. It was the first step toward obtaining a neobaroque organ in Duke Chapel.

The next major step resulted from a visit to Duke by Dirk Flentrop in the winter of 1968. At this time, the first discussions were held concerning the entire organ program at Duke. In view of the completion of the plans for the Mary Duke Biddle Music Building, it was felt that a comprehensive plan was needed to foster the interaction between the teaching program in the Music Department and the sacred music performed in the Chapel. At the same time, there was a growing awareness that the Æolian was due for major overhauling. A decision was made to construct a second organ, to be located at the junction between the nave and narthex on a specially constructed gallery. This would be a neobaroque instrument built in the north European style by the Dutch firm of D. A. Flentrop. Thus, there would be two totally independent instruments — one to accompany the congregation, one to accompany the choir, and each to be used for recitals.

Before this could transpire, however, there was the matter of the Chapel acoustics. Mr. Flentrop wisely pointed out that this plan would not succeed unless the Chapel could be made to sound as magnificent as it looked. By the same token, bringing acoustical life to the building would also entail degrading the intelligibility the spoken word. At this point, the help of Robert Newman, of Bolt, Beranek and Newman, was enlisted to solve this complicated problem. After a great deal of research it was found that a sealer applied to the Akoustolith tile in the vaults and on the walls of the Chapel would raise the maximum reverberation time from approximately three seconds to approximately eight seconds. To compensate for this increased liveness a speech reinforcement system was designed with a time-delay feature which renders the spoken word even more intelligible than it was before the Akoustolith was treated. Again with the support of the Mary Duke Biddle Foundation, both the acoustical modifications and the speech reinforcement system became a reality.

A final historical note needs insertion here. The Flentrop organ is a magnificent capstone for the careers of two distinguished artists — D. A Flentrop and the late William T. Muirhead. Those who see the organ apprehend immediately that its monumentality makes extraordinary demands on its supporting structure — demands which tax the competence of contemporary engineering. Just as Mr. Flentrop labored over every detail to ensure that this would be his finest instrument, so did Mr. Muirhead direct every aspect of the gallery construction. The confluence of such talent is rare indeed, but it came to pass on this project, and future generations shall benefit from this felicitous collaboration.

And now, the preparations completed, the Chapel waits to have its bejeweled bays come alive with the brilliance of new sounds. With the dedication of the new organ to the memory of Benjamin N. Duke, the renaissance begun nearly two decades ago by the Flentrop organ in Harvard's Busch-Reisinger Museum gains its greatest impetus. The spirit of this renaissance will be nourished at Duke, as the Flentrop will be eloquent testimony to the wisdom of the philosophy of looking to the past to find the future of the organ. A musical revolution has begun at Duke Chapel — a quiet evolution whose influence will slowly spread. And such a role is appropriate to an academic institution. Perhaps the import of this role is best stated by a quotation from a Mary Duke Biddle Foundation Annual Report:

"We must remember that great ideas do not always arise from places of power or from large-scale programs but may, in the words of Camus, come into the world 'as gently as doves.'"