THE DIAPASON

SEPTEMBER, 1984

Augustana College, Sioux Falls, SD
Specification on page 10

Editorial

Dear Diapason Readers:

Have you enjoyed a pleasant summer? I hope so. And, you ask, how have things been at Diapason headquarters? Well, let me relate a few items which helped enliven the lazy, care-free days of summer.

1) Our typesetters, located in downtown Chicago, installed new software in their computerized typesetting equipment in May and June. (You may remember that we began "in-house" keying of the magazine last December, in theory to streamline the process, allowing more control and efficiency at this end. It took weeks and months to assimilate the process with concurrent delays, but, our schedule *did* improve from December through May, so that magazine was actually being mailed in the correct month. "How unorthodox," you say?) The new software helped delay the June issue, although it, too, was mailed in its own month and received by most subscribers on the last days of June.

2) Then, as we battled the mysterious forces of the computerized typesetting machines and looked forward to gaining ground in July, word came of a union strike at our printers in Rochelle, IL. Now that *really* helped lift everyone's spirits, not to mention adding a fine sense of hilarity around the office. As I write this, the July issue is still in limbo (Rochelle); we are making contingency plans for August.

By the time you read these joyful tidings, all of the above will have been resolved, and we will have reluctantly returned to the usual, every-day, mundane exasperations of publishing THE DIAPASON. (But, then, we can't have *that* much fun *all* of the time, can we?)

In truth, despite some obstacles, the magazine is showing new signs of hope. Our circulation figures have reflected consistent increases for the last six months (reversing a previously disturbing trend). The various components in the publishing process have become aware of our unrelenting resolve to maintain our schedule and are complying. And, we hope that you have enjoyed our recent articles on a wide variety of topics. As we look forward to the 75th birthday of this journal in December, there is reason for optimism. May we continue to fulfill our "mission."

—*Jerome Butera*

THE DIAPASON

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Please remember that our new closing date for all materials to be published in The Diapason is the first (1st) day of the preceding month, for the next month's issue (November 1st for the December issue, etc.).

New Recordings

Arie J. Keijzer bespeelt Hoofdorgel en Koororgel St. Janskerk, Gouda. Side 1. Hoofdorgel (Main organ) built 1734 by Jean Moreau. From *Messe pour les Convents, 5e Couplet du Gloria*, François Couperin; *Suite du Deuxième Ton*, Louis-Nicolas Clérambault. Side 2. Koororgel (Choir Organ), built 1974 by Fa. Leeflang-Keijzer. *Partita Sei gegrüsset, Jesu gütig*, Chorale with 11 variations, J. S. Bach. Festivo. $11.00 plus $1.50 for postage per order from The Organ Literature Foundation, 45 Norfolk Road, Braintree, MA 02184.

The fine organist and musician Arie Keijzer has made a superior recording here. He captures the spirit and élan of French music, and his Clérambault especially shines. His articulation is precise, and he well preserves the spare, transparent textures of the music. Stops are distinctive and well chosen for contrasts (the *Duo* sounds like a dance between two Renaissance wind instruments). Keijzer has an excellent knowledge of the French style of ornamentation, and of the correct application of *notes inégales*, which enhance both *Duo* and *Basse de Cromorne* in this seven-movement work. Bach and Couperin are comparably well served.

Disposition is only given for the two-manual choir organ. No other information on either organ is given on the jacket; however, the modern choir organ is similar in character to the old main organ. Biographical notes on Keijzer are in Dutch; there are none on the music. Recording quality is excellent.

Michelle Leclerc bespeelt het van den Heuvel Orgel te Nieuwpoort. *Concerto No. 5 in d*, BWV 596, Vivaldi/Bach; *Prelude and Fugue in g*, BWV 535, and *Fugue in G*, BWV 577, *Trio Sonata in E flat*, BWV 525, and *Schmücke dich, o liebe Seele*, BWV 654, J. S. Bach; *Duo, Basse de Trompette, Dialogue*, A. Guilain. Festivo. $11.00, plus $1.50 for postage per order from The Organ Literature Foundation.

While Leclerc is an excellent organist with a fine reputation, the winner on this record is the organ. This colorful little instrument, built in 1974 inside an existing organ case in the Hervormde Kerk, is described in the brief, inadequate and unattributed notes as being "built with craftsmanship and receiv(ing) an individual character." It certainly has. Presumably a tracker organ, its stops have personality, and the sound is light, bright and clear, though it can achieve a reasonable majesty on demand. Why is it some organs have charm and others don't? This one has.

In general, Leclerc chooses her stops with care, keeping registers well differentiated and preserving the linear clarity so essential to performance of this music. However, runs are slurred together and not always even, though her articulation is more pronounced on quarter notes. Her interpretation of the *Fugue in G* (which *Groves* says is not Bach) is particularly lively, and that of the Guilain work has character and zest, but *Schmücke dich* sounds dreary. The music does not breathe, colors run together; perhaps from an inapposite choice of stops this time. The problem is compounded by a gluey legato.

The organ disposition is given, but the photo of Leclerc at the organ shows a different instrument from the one featured on the disc. Recording quality is excellent.

Fenner Douglass on the Flentrop, Duke University. *Toccata and Fugue in d*, S. 565, *Jesu, Joy of Man's Desiring*, from Cantata 147, J. S. Bach; Chorale *Praise to the Lord*, Johann Gottfried Walther; *Fauxbourdons* (from the court music of Carlos V), Anon. 16th C.; *Larghetto in d* (from *Concerto in d*, Op. 3, No. 11), Bach-Vivaldi; Chorale *In Dulci Jubilo*, S. 729, J. S. Bach. *Praeambulum in d*, WV 33, Heinrich Scheidemann; *Voluntary in F*, Op. 7, No. 6, John Stanley; Chorale *A Mighty Fortress is our God*, Johann Nicolaus Hanff; Chorale *Now Thank we all our God*, S. 657, J. S. Bach; *Petit Cornet ou Petite Tierce*, Jacques Boyvin; *Grand Dialogue in C*, Louis Marchand. Gothic Records, Inc. Stereophonic 38114. $8.98 + P&H. P.O. Box 1576, Tustin, Ca 92681.

It is hard to pinpoint why this recording should sound so bland. Douglass's credentials as a classical musician are impeccable, yet except for the two French works, none of these performances comes to life. There is a lack of bite in the Bach works and an overall smoothness that cuts color and excitement. The *Toccata and Fugue in d*, still attributed to Bach on the jacket, suffers from exaggerated changes in tempi, and unnecessary fooling around with the registrations. Indeed the whole record appears to be an exercise in the use of stops. However, Douglass's performance of the brief Boyvin work—added to include the Rossignol (Nightingale) stop—is vibrant with character, articulation, and textural clarity; while his splendid Marchand *Dialogue* makes one sit up and listen, at last.

The colorlessness of most of the German works may, in part, be due to the four-manual, 66 stop Flentrop: very big for Bach's milieu. It certainly suits the French works better.

The jacket includes a diagram of the organ, its disposition, and a photo of its front pipe ranks. Douglass has provided brief notes on registration for each work, though nothing about the music itself. Recording quality is excellent.

Johann Sebastian Bach: Franz Lehrndorfer an der Orgel in St. Quirin, Tegernsee. *Toccata in C*, BWV 564; *Toccata in E*, BWV 566. *Six Schübler Chorales*, BWV 645-650; "Wachet Auf;" "Wo soll ich fliehen hin;" "Wer nur den lieben Gott lässt walten;" "Meine Seele erhebet den Herren;" "Ach bleib' bei uns, Herr Jesu Christ;" "Kommst du nun, Jesu, vom Himmel herunter." Calig 30 823 Digital. $12.00 plus $1.50 for postage per order. The Organ Literature Foundation.

Comparing the performance on this disc with that on the Douglass record, Lehrnsdorfer's playing comes across as much more lively, with air spaces, and a clear differentiation between slurred and separated notes. The organ is bright, and there is more linear clarity in these straightforward, enjoyable performances.

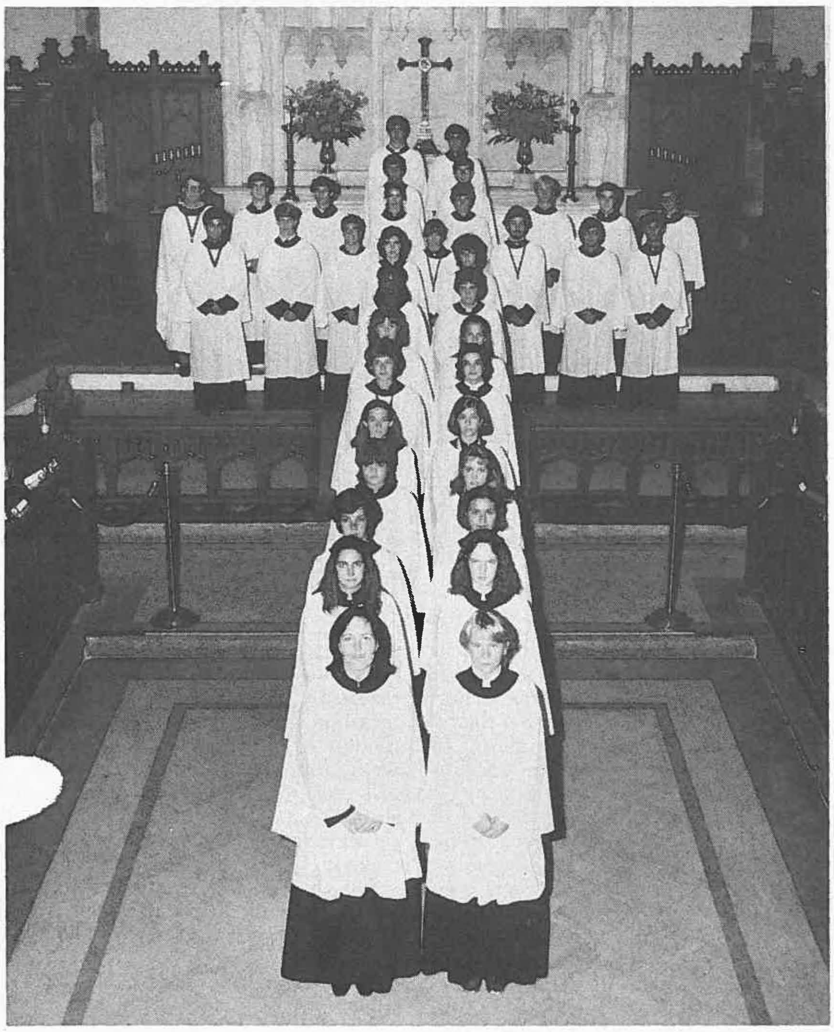
In the *Schübler Chorales*, Lehrnsdorfer exhibits some uncertainty about appropriate ornamentation. Sometimes appoggiaturas are anticipated, sometimes not; particularly noticeable in "Wachet Auf;" and in several places obligatory appoggiaturas and trills are omitted. "Meine seele" is taken too slowly to sustain the flow of the music, and Lehrnsdorfer's tempi are not always rock solid. However, these are but small criticisms on an otherwise worthwhile record.

The titles for Side I are misleading. More helpful would be *Toccata, Adagio and Fugue in C*, BWV 564; and *Prelude and Fugue in E*, BWV 566 (*Groves'* listings).

Brief jacket notes on the music, Lehrnsdorfer, and the organ are in German, with a truncated version of the music notes only, in English. Organ disposition is given. The recording quality is excellent.

–*William and Philippa Kiraly*

Here & There



The Choir from the **University of the South**, Sewanee, TN, made a two-week tour of England in May and June. 29 choristers, under the direction of Robert Delcamp—University Organist and Choirmaster—sang services at Winchester, Chichester, Wells, Gloucester, and Coventry Cathedrals; and at St. George's Chapel, Windsor Castle, and St. Peter's Church, Brighton. Concerts were sung at Rochester Cathedral and the Church of St. John the Baptist, Alresford.

"The Singing Organ" is the title of a new documentary film about and with **Jean Langlais**. It received its first viewing February 15, 1984, at the Cathedral of Bonn by its Czech author and producer Vaclav Vytvar who now resides in West Germany. The forty-minute film is available in English, French and German versions in a variety of formats for use in theaters, small conference rooms and in several sizes of video cassettes.

Filmed in Brittany, Langlais' birth place, and in Paris, his adopted city, this documentary shows him in a variety of locations with his wife Marie Louise and their little daughter Caroline. Various scenes of Paris and Brittany are accompanied by portions of his music including the *Apocalypse*, *Solemn Psalm No. 3*, and *Double Fantasia for Two Organists* played by him and his wife. Langlais speaks of his youth, his parents, his music, and of his great friendship and admiration for Olivier Messiaen in the context of many pictures highlighting his life never before available to the public.

For further information, interested persons may write directly to the producer specifying the type of film desired: Mr. Vaclav Vytvar, 1 Gutenbergstr. 18, 42 Oberhausen, West Germany.

•

"Organic Bach"—a two-day festival celebrating the 300th birthday of J. S. Bach—will be presented on April 12–13, 1985, at South Congregational–First Baptist Church, New Britain, CT. The event will be a benefit for the Annual Fund of the AGO. The marathon performance will last about 12 hours, with concurrent programs in the church and chapel. Organists are being asked to donate their participation for the benefit. Overnight lodging will be provided where necessary, and some travel expenses will be reimbursed. Performers are encouraged to play on both the 63-rank and 14-rank organs built by Gress-Miles. Application forms are available from the church at 90 Main Street, New Britain, CT 06051.

•

The **National Youth Choir of Great Britain** made a number of appearances in California during July and August. Prominent on their concert programs was *A May Magnificat* by Welsh composer William Mathias. Commissioned under the auspices of the Ruth Draddy Memorial Trust by the 25th Cork International Choral and Folk Dance Festival, the work calls for double choir, unaccompanied or with chime bars.

•

Edward J. Soehnlen, co-editor of the facsimile edition of Diruta's *Il Transilvano* (Buren, 1983) and of the translation of the same treatise (Henryville, 1984), recently presented a lecture-demonstration on "Italian Organ Music of the Baroque Age" at the University of California, Los Angeles. Dr. Soehnlen played works of Frescobaldi, Pasquini, Scarlatti, Merulo, and Merula on the university's new Noack organ.

•

Timothy and **Tamara Albrecht** have returned from a six-week organ recital tour of Western and Eastern Europe. Timothy performed recitals at Cambridge University, Coventry Cathedral, Newark, Oundle, St. Albans, Holt, Warwick, and Göttingen. In East Berlin's Marien Kirche the couple performed music for two organs. The tour included a study of several Cavaillé-Coll instruments in Paris and 18th-century organs by Joachim Wagner in East Germany. Albrecht's tour was partially funded by a grant from Emory University, where he is University Organist.

•

Patricia Phillips, Director of Music at Dominion–Chalmers United Church, Ottawa, Ontario, recently completed a recital tour of Denmark. Performances took place in Aalborg, Logumkloster, Hellerup (Copenhagen), and in the historic Aarhus Cathedral. In addition to works of Bruhns, Buxtehude, Bach, Mendelssohn, Nysted and Albright, Dr. Phillips introduced Canadian compositions by William France (*Oboe Tune*) and Gerald Bales (*Petite Suite*). Phillips and her husband Dr. Edward Phillips, assistant professor of music at the University of Ottawa, are presenting the organ works of Bach during the 1984–85 season at Dominion–Chalmers.

•

Visser–Rowland Associates, Inc. has announced that Jan R. Rowland has left the firm. The company name will remain the same and VRA will continue to operate under its present charter with a backlog of organs to be built through 1986. Thomas Turner will be the new executive vice president as well as the tonal director of the firm.

•

Ashland Records, an independent record label located in Chico, CA, has announced the completion of their latest recording project: *Toccatas, Dances and Concertos* (#AR4986). This represents the company's third classical release and features two northern California artists, **David Rothe** (organ) and Richard Winslow (trumpet).

David Rothe is professor of music at California State University. This marks his second release on the Ashland label (previously released: *Rothe plays Bach and Buxtehude* #AR4987). The organ and trumpet album was recorded at St. John's Catholic Church in Chico on the Bigelow tracker organ.

•

The Standard Awards Panel of ASCAP has granted a Composer Award to **Robert P. Wetzler**. This is the 18th such award Wetzler has received—one each year since 1967. He has nearly 250 published compositions, mainly in the realm of church music. He holds degrees from Thiel College, Greenville, PA, and Luther–Northwestern Seminary, and has done graduate studies at the University of Minnesota.

Appointments

Susan Marchant has been appointed acting chairperson of the department of music at Pittsburg State University, Pittsburg, KS, for the 1984–85 academic year. She replaces department chairman Gene Vollen who has been granted a year's sabbatical for further research on the French cantata. In addition to her responsibilities at the university, Marchant will continue to serve as dean of the Southeast AGO Chapter and as director of music at Pittsburg's First United Methodist Church.

John Chappell Stowe has been appointed Assistant Professor of Organ at the University of Wisconsin-Madison where he succeeds John Harvey, who is retiring. A graduate of Southern Methodist University, he studied with Robert Anderson and Larry Palmer; at the Eastman School of Music he received the D.M.A. and Performer's Certificate as a student of Russell Saunders. He leaves a position at Houghton College, Houghton, NY and is represented by Phillip Truckenbrod Concert Artists.

Vernon Gotwals

Retirement

Vernon Gotwals retired in June after 32 years on the music faculty at Smith College, Northampton, MA. He was organist in the Helen Hills Hills Chapel, taught theory and history (especially Bach and Haydn), and served five two-year terms as chairman of the department. His wife Carol has retired as music director of the Hampshire Choral Society, and they now live in Stonington, a town near Deer Isle, Maine.

Nunc Dimittis

Lloyd Davis died suddenly on April 29. He was 46. Organist and choirmaster of St. Michael's Church, Barrington, IL since 1979, he had previously served as organist at a number of churches in the Chicago area. Mr. Davis graduated from the American Conservatory of Music, Chicago, in 1966, where he studied with Leo Sowerby.

Robert Lind was organist for the Requiem held on May 3, and The Rev. W. D. McLean III, Rector of St. Michael's delivered the homily. Others contributing to the music of the liturgy included organist David Schrader and choir director Richard Carter.

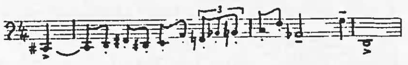
Justine E. Johnston died on May 21 after a year-long battle with cancer. She was organist of St. Rosalia Church, Brooklyn, NY. Previously she had served as organist at St. Ephrem's, Ft. Hamilton, Brooklyn. Johnston was an Associate of the AGO and a frequent recitalist at St. Patrick's Cathedral in New York. Her father, the late James Philip Johnston, was organist at Sacred Heart Cathedral, Newark, NJ.

New Concerto by William Mathias

It is not every day that the literature for the organ is enriched by a concerto written by a major composer. September the twelfth this year was, therefore, a red-letter day, for on this night in London's Royal Albert Hall, Gillian Weir and the BBC Welsh Symphony Orchestra unveiled the newest work by William Mathias—his *Organ Concerto*. The concerto was commissioned and presented as part of the Henry Wood Promenade Concerts season, "the world's largest musical festival."

Fortunately both composer and artist made themselves available to discuss the newborn opus. "The idea for this concerto was born of a promise made several years ago to write such a work for Gillian Weir," I was informed by William Mathias. Mathias has made the organ literature richer many times with his works for solo organ, but this marks his first opus for organ and orchestra. The score bears the dedication to Dr. Weir; the two have closely collaborated, starting with a pilgrimage to Royal Albert Hall itself. Composer and organist went to explore the acoustic and visual properties of the hall as well as its famous instrument before Mathias began to work on the concerto. "I was enormously interested in the acoustics of the Albert Hall, and I felt it was important to go there and imagine the sounds I would create," he explained. "Gillian was very helpful in that she played for quite a long time while I just wandered around the hall listening from different points."

Structurally, the concerto falls into fifteen variation sections based on the concept of the fourteen Stations of the Cross followed by an extended "Et resurrexit" finale. The basic material, or "germ," is loosely derived from a fourteen-note theme first heard in the pedals. These notes in sequence also form



the tonal centers of the fourteen variations with the finale resolving onto G. There is a great deal of symbolism linking this work with its various influences. The background material is also enriched by the opening of Bach's "Canone doppio sopr'il Soggetto" (BWV 1077). Bach inscribed on the manuscript

to this obscure canon "Symbolum. Christus Coronabit Crucigeros," translated "Christ will crown those who bear the Cross."

This concerto, then, is constructed around a complex yet integrated set of musical (and literary) allusions, to which is added a brief nod in the direction of the *Orgelbuechlein* ("Christ lag in Todesbanden") and to plainchant in the form of the *pange lingua* and *vexilla regis* melodies. These emerge as tonal/modal variants of the opening theme in the pedals. Mathias was amazed to discover this last fact after the concerto was completed. "In a pluralistic age I have become increasingly interested in the unique relationship between music and chronological time," Mathias wrote in his introduction to the work published in the Prospectus which advertises the Promenade season. The evidence of this in the concerto is overwhelming, his own idiom being linked with plainsong, the Stations of the Cross, Bach, and even with a quote from another of his own works.

Gillian Weir

An example of the complexity of Mathias's thinking is the decision to base his new concerto on the *idea* of the Stations of the Cross without specifically referring to the events. While there are fourteen sections corresponding to the fourteen Stations, none of them represents a scenario; however, each fall of Christ on the path to Calvary is marked with a cadenza for the organ. The sections are clearly marked with tempo changes, but none of them are "titled" with corresponding Stations. The composer was striving to create a new type of concerto and a work which, while based on a dramatic event, needs no visual imagery to help it along.

As well as the organ and the acoustic, the initial performer was very much in the mind of the composer. "William Mathias and I spent some time together in February when he sketched the work out," Ms. Weir told me.

> We went through it on the piano in his music room in Wales and we discussed exactly what would go on the organ and what wouldn't. So that I am afraid that I would have to blame myself if it didn't work. We were in no way simplifying the work but just making sure that things were in the idiom of the organ. He has not tried to write a piece to defeat the player, but a real piece of music.

William Mathias

As we pored over the beautiful calligraphy of Mathias's score, examining it for details, Gillian Weir was most enthusiastic. "This concerto is a major contribution and very accessible, too. Although written encompassing the idea of the fourteen Stations of the Cross, it was not intended that the audience should *think* about that tragic story but rather relate the music to some similar tragedy, perhaps in their own lives."

On the subject of any problems in such a difficult acoustic as the Albert Hall is famed for, Ms. Weir further mentioned:

> There are always problems coordinating the organ with an orchestra in that hall. The distance between the organ and the orchestra is vast, and also the different bits of the organ speak at different physical levels and at different times. On top of this the organist cannot hear, nor can the conductor. Even he isn't far enough away to get the full impact of the organ. Mathias has kept that in mind, and there are no entrances for the organ after a half-beat, for instance, which would complicate entries. He writes a major theme for the organ and a major theme for the orchestra in a way that one accompanies the other. Some of the concerto is extremely expressive and beautiful; it has exciting passages, it has beautiful passages, and it is in a style which we will all recognize and love, while at the same time it is *of* the twentieth century. It is a major musical work, and organists throughout the world may mark the appearance of this concerto as a milestone.

—Laurence Jenkins

Pipe Organ Structure and Sound

William D. Turner

There are practical reasons for having a more scientific understanding of pipe organ sound. Such understanding is illustrated by an analysis of relationships between pipe organs' musical properties, sound waves, and physical structures, with reference to physical acoustics and auditory psychology. This kind of information can help organ builders to advance pipe organ construction and sound, and reassure organ committees regarding their judgments of competing instruments' musical performance. Demonstrations of instruments' musical properties can indicate their power to attract listeners over longer periods of time.

References to organ parts other than pipes cite comparatively general relations between windchests, keying actions, and pipe cases on the one hand, and instruments' sound on the other.[1] Similarly, a basic description of organ pipes specifies very few acoustic properties.[2] Systematic acoustical studies of pipe organs have dealt only with the way single wind-blown pipes generate and radiate their tones.[3] Almost no systematic studies have concerned the musical effects of organ pipe arrays as arrays. There have been altogether too few acoustical studies of pipe organ sound, and there is an apparent aversion to them on the part of those who say that organs and pipes have been built for 2,000 years without the help of higher mathematics and acoustical science, and that pipe organ sound is actually too complex to be comprehended by such disciplines.

Everyone is familiar with current advances in medical, engineering, and other technologies, made possible by their own research and that of related sciences. Thus far, pipe organ builders have made sparing use of related technologies, and then sometimes to the detriment of pipe organ sound. Electromagnetic actions eased the playing of large instruments, but disabled their expressive keying and blurred their multivocal speech. Electric blowers easily provided the high wind pressures productive of loud sound. This, in turn, invited pipe nicking which eliminated the goose notes of grossly overblown pipes but which also further blurred their speech.

In contrast, Albert Schweitzer's incidental comparison of 17th- and 19th-century German organs invited an intercontinental revival of tracker organs and the body of music they can interpret.[4] If American pipe organ building is in the static condition some ascribe to it, imaginative use of the knowledge, methods, and progressive philosophies of related sciences could well re-animate it, as sciences and technologies have advanced other arts. Applied chemistry and physics have much to say about materials and principles of construction. Acoustical science has much to say about generation, transmission, and impingement of sound waves. Neurophysiology has much to say about conversion of physical sound waves into nerve impulses and cerebral processes. Experimental psychology has much to say about the nature and conditions of heard sound. Such sciences are necessary to fuller understanding of organ-building. Their distinctive resources should enable pipe organ builders to advance pipe organ sound in ways and at rates hitherto not possible.

The reader may have encountered classical principles of sound transmission in free air, from a point source to a point destination. He may have recognized that the circumstances of real listeners to real pipe organs in a real room are inordinately more complex than such principles. He may have come to believe that no form of mathematics can encompass these complexities. Yet some acoustic phenomena correspond to pluralities of events which statistical formulations can describe and help explain. For example, Benade employs acoustic "room statistics" to represent properties of a reflective room which are important to its musical usefulness, and relates these properties to observed "precedence effects," or organizing perceptions of a brief series of direct and initially reflected waves at a tone's beginning.[5] Typically, during about the first 40 thousandths of a second after receiving a direct sound wave, the listener's auditory system integrates the first half dozen or so reflected versions of that wave into a single heard sound which he then localizes at the origin of the direct wave and perceives as having the timbre of the source. That is, within a welter of reverberant sound, the listener perceives, not locations and timbres complicated and distorted by many reflected waves, but locations and timbres of sources themselves. Such perception yields the same heard results from widely differing locations within a room, even though the patterns of air waves at much less widely separated locations vary rather enormously. Such constancies are not unique in human perception. A figure seen to be receding to a considerable distance retains its perceived stature even as its retinal image declines to a fraction of its initial size. Colored surfaces retain their apparent color under widely differing spectral illuminations. Such perceptual constancies disclose a stable world which behavior requires, whose radiated and sensed energies would otherwise mask it. Room statistics afford predictions conducive to rational design of pipe organs and musically effective environments. Precedence effects afford explanations of certain properties of pipe organ sound. The discussions of pipe organ properties 9, 17, 26, and 29, which appear below, illustrate explanations which involve precedence effects.

Scientific resources bear also on organ demonstrations. Lay organ committees can readily hear the overall musical differences between a good pipe organ and other existing organs, and ideally should recommend an instrument just on the basis of what they need and hear, and the cost. But their choice is usually complicated by their own and others' questions and statements about the specific nature of the heard differences and the reasons for them. People think as well as perceive, habitually testing their subjective experiences against objective facts and logic. Thus, an organ committee's choice of an instrument often hinges not only on the sound which its members hear, but also on competing claims and their given reasons if any. When challenged, all that a demonstrator has to do is supply direct evidence and objective information in support of his claims, as pipe organ demonstrators have been doing for generations. It so happens that pipe organ demonstrators are in a position to supply especially full and precise reasons for the way their instruments sound, but not all of them presently know what some of the more important reasons are, have the words to convey such reasons understandably, or know how to demonstrate the characteristic properties of pipe organ sound. The present paper enumerates such properties, supplies terms for referring to them, indicates objective and scientific reasons for them, and describes the process of their demonstration.

My own interest in such matters was first aroused some time ago by observations of pipe organ sound and possibilities of duplicating it precisely by electronic means.[6] Obviously, one could not achieve such duplication without at least knowing the nature of the sound. I found that many properties of pipe organ sound had not been recognized or reported as such, that some had been observed but not defined or explained, and that no comprehensive enumeration of them existed. Such enumerations are not simple, and can be developed only progressively. Those which I completed in 1975 and 1979 have been revised and extended in the one presented below.[7] Although subsequent efforts by myself or others undoubtedly will amend this one further, no enumeration needs to be complete or final to be useful to pipe organ builders and demonstrators at present.

Thus, the present paper conceptualizes and integrates information about audible *properties* of pipe organ sound, corresponding physical air *waves*, and pipe organ *structures* which generate the waves. Such variables or parameters do not supplant aesthetic characterizations of organ sound. Rather, their relations to each other, and to concepts and terms from the disciplines of acoustics and auditory psychology, explain many such important characterizations.

The following text examines general considerations bearing on the properties' demonstrations, and formulates brief concepts of music and of properties of acoustic musical instruments. Then an extended discussion of 35 presently identified musical properties of pipe organ sound briefly describes each property and its demonstration. The large number of the properties reflects pipe organs' intrinsic complexity. Properties 1 and 2 refer to pipe organs as wholes. Properties 3–19 refer principally to individual pipes. Properties 20–26 concern pipe arrays. Again, properties 27–35 pertain to the instruments as wholes. Two properties (22 and 24), whose unmusical qualities are present in some instruments other than pipe organs, are identified in negative terms. Other properties exist. One or more of those which are discussed below are lacking or deficient in some instruments other than pipe organs.

Estimates of durability of appeal

Organ committees usually need to ascertain not only an instrument's initial appeal, but also whether it has the resources for musical complexity which enable it to sustain that appeal over a long period of time. Because almost all of a pipe organ's properties signify resources for musical complexity, and because such complexity is a necessary condition of continuing musical interest, instruments having more of the properties can be expected to have greater listener-holding power, and demonstrations of the properties can provide estimates of that power.

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Demonstration of the properties

Although some organ committee members may be eager to understand what they hear, it is probably unfair and unrealistic to expect most lay persons to plough through a document like the present one or to sit through demonstrations of each competing instrument's properties. Instead, the committee's own organist can familiarize himself with the properties which at first are unfamiliar to him, demonstrate an instrument's properties to the satisfaction of himself and interested committee members, and report his findings to the rest of the committee.

Because the musical properties of pipe organs are relatively well established and communicable, they may not need to be demonstrated except for purposes of illustration and comparison. Thus, most demonstrations of properties may actually concern instruments other than pipe organs.

The presence or absence of most of an instrument's properties can be established by simple stop settings, key depressions, and observations of the resulting sound, as described at the end of each of the following discussions of the properties. Several of the properties may contribute detectably to an instrument's overall musicality, but still be hard to *identify* except with the aid of microphones and recording instruments. This is especially true of properties 5, and 13–16 inclusive, which also happen to be musically somewhat less significant.

If the attributes of an instrument's notes are subject to quasi-random variation (see property 4, below), the presence or absence of other properties may not be established by a first selected stop and key only. Therefore, a given demonstration may need to be repeated with other stops and keys until it becomes obvious that an instrument lacks or displays the property in question.

Property 26 (Chorus effects, see below) concerns in part apparent movements of an organ's sound in space, which at first may be especially difficult to recognize as such. Thus, although spatial movements contribute crucially to a pipe organ's musical sound, and although the musical difference between their presence and absence is easily observed, the movements are practically never recognized spontaneously as spatial movements. As a rule, visual perception of an organ as a physically stationary source of sound keeps a new observer from recognizing some of its sound *as moving*, even though he easily distinguishes the moving sound from other sound that is not moving. As with ventriloquism, visual cues can sometimes completely govern sound localization (see 9, below). But once an observer realizes or learns that he is hearing sound that moves, he more easily identifies it as such thereafter. So the demonstrator should first indicate that a sound from an apparently stationary source can be heard as moving, and then demonstrate the fact if the instrument so allows. If the observer closes his eyes at first, the misleading visual cue will be eliminated.

A further precaution concerns the effects of moving objects or persons during a demonstration of an instrument. If during the moments of demonstration any substantial body moves anywhere within the entire area of test, the resulting changes in patterns of sound reflection and diffraction in the area will generate what may seem to be spatial chorus effects of the instrument under observation, and overall evaluations of the instrument may be invalidated whether or not the instrument itself can produce natural chorus effects. One should be able to hear an instrument's authentic sound without anyone having to move continuously. So a demonstrator should require that *everyone* sit still for the few moments of any demonstration of any musical property of any kind of instrument.

General concepts

Music is an arrangement of sounds that is pleasing, expressive, intelligible, and significant. Such arrangements are usually with regard to pitch, loudness, timbre, rhythm, melody, and harmony. Musical forms exemplified by melodies, harmonies and counterpoint vary in nature and complexity over ranges whose extents differ for different individuals or cultures at the same or different times. The attractiveness of a given piece of music depends on its composer, performer and listener, but on properties of the rendering instrument as well. Because of the structures and unavoidable imperfections of acoustic musical instruments, their sound displays irregularities which, if moderate, greatly enrich their musical properties. An instrument's properties signify its acoustic resources for producing musical sound that is complex and correspondingly rich in aesthetic potential.

Pipe organs' musical properties

1) **Plural scales.** In pipe organs, plural scales are implemented by pipe ranks of differing register on the same or different keyboards. To demonstrate, set stops of different register, one at a time, and depress the same key for each stop. Observe the different pitches of the resulting sounds.

2) **Plural timbres.** In pipe organs, plural timbres are associated with nominally different stops and pipe ranks. Set stops of the same register but differing timbre, one at a time, and depress the same key for each stop. Observe the differing timbres of the resulting sounds.

3) **Individualization.** Significantly, a pipe organ comprises a relatively large number of independently constructed pipes. It is not possible to hand-fabricate two or more pipes whose waveforms or heard sounds are identical. Objective acoustical studies employing multiple microphones and oscilloscopes, frequency counters, or FFT (Fast-Fourier-Transform) spectrum analyzers, will confirm that sound waves generated by a voice's individual pipes differ variously from pipe to pipe in degree of frequency mistune, overall amplitude, continuing waveform, responsiveness to keying, change in waveform during attack and decay, and spatial location. The pipes' audible sounds can be observed to differ correspondingly in sharpness and flatness of pitch, and in loudness, timbre, duration of attack and decay, change in timbre during attack and decay, and perceived location. Set an 8′ diapason stop. Repeatedly play successive notes slowly up the scale. Observe the notes' differences in speech, timbre, loudness and location.

4) **Quasi-random variation.** As the above objective measurements and subjective observations will further confirm, the individualized sound qualities of an organ voice's pipes vary in part together (or oppositely) and in part randomly, or quasi-randomly. By this token, a pipe organ voice cannot be defined by the waveform generated by any single one of its pipes, or by any presumedly typical pattern of tonal attack, but only statistically, in terms of central tendencies, dispersions, and intercorrelations of the various tonal attributes of all the voice's pipes. By the same token, a particular type of pipe organ voice is not ordinarily recognizable when just the sustained portion of the sound of one of its pipes is heard, or even when the one pipe's tonal attack is also audible. Consistent recognition of an organ voice is usually possible only when a number of its pipes speak in succession, just as a particular human voice is recognizable only when the speaker uses it over a range of pitches, or more generally, as the intended meaning of a spoken sentence is conveyed by all the successive words which compose it. Set an 8′ diapason stop. Repeatedly play successive notes slowly up the scale. Observe that the characteristics of speech, timbre, loudness and location differ more or less randomly from one note to the next.

5) **Pitch changes during speech.** The wave frequencies and corresponding pitches of organ pipes can change variously during tonal attack and decay. The exact basis of all such changes is not yet completely understood. Some changes in heard pitch which occur while a pipe's fundamental frequency remains unchanged appear related to initial surges in notes' *higher* harmonics (see 6, below). Pitch is not simply a function of fundamental wave frequency: in the common condition of diplacusis, each separately unstopped ear hears a slightly different pitch. Set any stop. While depressing single keys one at a time, observe any audible changes in pitch during tonal attack.

6) **Changes in timbre during speech.** Changes in timbre during attack and decay appear related to changing patterns of air vortices at the mouths of flue pipes. In Romantic organs the vortices are often suppressed by nicking of pipes during voicing, finishing, or servicing. Set an 8′ diapason stop. While depressing single keys one at a time, observe changes in timbre or relative harmonic strengths during tonal attack. Changes in timbre of decaying notes are usually more difficult to observe.

7) **Smooth speech.** Amplitude changes throughout organ pipe attack and decay may differ substantially in overall rate, but slow replay of taped organ pipe speech into oscilloscopes and FFT spectrum analyzers shows that each segment of such change begins and ends smoothly, displaying an S-shaped, or sigmoid pattern in which the change is at first slow, then more rapid, then finally slow again. Such patterns appear generally related to inertias of air masses and reeds. Although Keeler assumes that tonal attack follows an exponential function, his published curves of the attack of different notes in various voices consistently evidence his observed "initial delays" and the corresponding, variously asymmetrical sigmoid functions characteristic of organ pipe attack (see reference 8, below). Set any stop. Play single notes one at a time at various parts of the scale. Observe that the overall duration of attack differs more or less randomly from note to note, but that all phases of the attack are smooth in all notes.

8) **Expressive speech.** The expressive speech of pipe organs with tracker action, and its lack in other pipe organs, are well-known and understood. Set any stop. Play any single note repeatedly, depressing and releasing the key at a different rate each time. Observe the corresponding differences in rate of attack or decay.

9) **Localization, or perception of location.** Differences and changes in spatial localization of sounds generate spatial extent and movement which are two musical attributes of pipe organ sound. In free air, lateral localization of sound (toward the left or right) is a function of slight differences in the time (phase) and intensity of a source's wave at a listener's two ears. In a room, precedence effects preserve accurate lateral localization as a listener's location is itself varied. A source's sound waves which first reach the listener's ears directly by air are followed in rapid succession by a series of the same or similar waves as reflected by the room's floor, walls, ceiling, and major reflective contents. The direct waves, and the initially reflected waves which reach the listener during about the next 40 milliseconds, are combined perceptually into a single

heard sound which the listener quickly localizes quite accurately at the source of the direct wave. The reflected waves aid, and do not distort the localization, and are actually necessary to its accuracy. They even enable a listener to localize sound in a room by means of one ear alone. Diffraction, or shadowing, of the wave by the listener's head, differing with the wave's length and its angle of incidence (impingement or impact), can modify lateral localization. A visual cue to the lateral location of a likely source can further alter or completely govern a sound's localization. Localization of sound at different distances can vary with the wave's amplitude at the listener's ears, but visual and other cues can cause a given sound to be heard as either near-and-weak or far-and-strong. Localization of sound in the vertical dimension is dependent almost entirely on visual cues and movements of the listener's head. Reflections of a pipe's waves by the inner surfaces of its enclosure and by other pipes or objects near the pipe array can obviously alter localization, as can diffraction, or shadowing, by intervening pipes and other objects. The overall differences in localization of differently located pipes of substantially differing frequency, and the successive sounding of differently located pipes, lend spatial extent to the sound's overall image and generate perceived movements within it. Set different stops of the same register one at a time, and depress the same key for each stop. Observe different apparent locations of the sources of sound, closing the eyes while listening. Also observe any apparent movements of the sound while the key is held down and the stops are quickly changed.

10) **Effects of listener location.** The different spatial locations of different pipes, and correspondingly different modifications of their sounds by pipe enclosures cause the heard sounds to differ at different listener locations. Some listeners prefer one location; others, another. Set two similar 8′ stops on the same keyboard and twice depress a key above the middle of the compass, first with the listener in one location, and then with the listener in a different location. Observe the differences in sound as heard at the different locations.

11) **Optimal mistune.** Different temperatures and different rates of temperature change at different locations in a pipe organ, and the cooling effect of expanded air in recently blown pipes can cause different degrees of temporary, slight mistune in otherwise perfectly tuned pipes. Other, mechanical causes of mistune operate over longer periods of time to produce stabler and more marked degrees of mistune. If mistune is not so gross as to be unpleasant, it is more musical than perfect tune, and differences in degree of mistune are themselves musical. Hence, the term, "optimal mistune." Set two 8′ stops. Depress and hold single keys one at a time very slowly up the scale. Observe the beats and/or spatial movements of the continuing sounds, and that the rates of the beats or movements which indicate mistune differ more or less randomly from one key to the next.

12) **True-harmonic pitches of mutation and compound stops.** The fundamental frequencies of a pipe organ's mutation and compound ranks are initially tuned to harmonic frequencies of a fundamental frequency stop. While some compound stops' astringent quality has limited musical appeal when sounded alone, the ranks become musical when sounded with fundamental and other ranks to produce musical forms. Set a fundamental frequency stop (e.g., an 8′ manual stop). Set a corresponding mutation stop. Depress one key, noting the consonance and the fundamental/harmonic relation possibly modified by optimal mistune. Repeat with the fundamental stop and a compound stop (Mixture or Cornet), observing the consonance.

13) **Catch in speech.** Simultaneous keying of large numbers of large pipes on a given windchest may momentarily overload the wind supply and generate brief, moderate fluctuations in their sound and that of other, already speaking pipes. If not excessive, the fluctuations can be as musical as the effects of a singer's controlled breathing. Set several stops of large-scale pipes. Depress a key at the top of the keyboard while depressing several keys at the bottom of the keyboard. Observe any brief unsteadiness of the high pitch.

14) **Fluctuations in timbre.** Junor discusses an article by Keeler which refers to different patterns of change of different harmonics, observed during and following tonal attack, and which regards various patterns as typical of different stops and stop families even though the effects vary greatly from note to note within some voices and with repeated soundings of the same note.[8] My further observations indicate that: a) most fluctuations of harmonic amplitudes during tonal attack occur in the absence of inharmonicity; b) fluctuations in harmonic amplitudes can occur during pipes' "sustained" sound because of wind turbulence (see 15, below); c) inharmonicity occurs and sometimes changes during some pipes' tonal attack; d) inharmonicity occurs during some pipes' sustained sound, with corresponding fluctuations in that sound; e) inharmonicity differs quasi-randomly from one pipe to the next, within as well as between voices; f) differences in inharmonicity evidence quasi-randomly different degrees of flatness as well as sharpness of higher harmonics relative to the fundamental; and g) except for the lack of spatial extent and movement, the heard effects are similar to those of compound stops whose spatially separated, concurrently sounding pipes are in optimal mistune (see 11, below). An electronically generated "gamba" voice devoid of inharmonicity was said to sound "mechanical." Set an 8′ gamba stop or other string stop. Depress and hold various keys, one at a time, noting any audible changes and fluctuations in timbre in some of the notes, especially during their attack. For contrast, repeat the observations with an 8′ diapason.

15) **Random fluctuations in loudness.** Air turbulence in organ pipes and wind channels can produce relatively rapid, random changes in loudness which, if not excessive, add to pipes' musical interest. Set any stop. Depress any key. Observe any relatively rapid and moderate fluctuations in loudness of the continuing tone.

16) **Wind noise.** Wind noise is heard as a high frequency hiss which can be musically interesting if it is not excessively strong and persistent. Set any stop. Depress any key, observing any audible hiss.

17) **Sustained timbre.** Pipe organ literature identifies a large variety of nominally different pipe timbres. Differences in builders' styles, and quasi-random variation within voices, add enormously to such variety. The timbre of a single organ pipe's sustained sound may be harsh and unpleasant when heard alone, but lend character and vitality to musical forms which it generates in company with other pipes of the same or different nominal types. In free air audition, a pipe's timbre varies with its spectral pattern, or relative harmonic amplitudes. Although in a room the spectrum of a pipe as measured with a single microphone varies markedly from one location of the microphone to another, because of precedence effects of auditory perception a listener hears the same timbre at widely different listener locations. Thus, the listener's auditory system combines the first waves of each harmonic which reach his ears directly, with the series of reflected versions of those similar waves which reach his ears within the next 40 or so milliseconds. Because organ pipes do not radiate harmonic sounds uniformly in all directions, and because the paths of the different reflected waves generally differ in length, the amplitudes of the reflected waves usually differ from each other and from the amplitude of the direct air wave. For these reasons the spectral patterns of the reflected waves as detected by a single microphone differ for differently located reflective surfaces and at different locations of the microphone. Nevertheless, the listener's auditory system combines the signals received during the initial 40 millisecond interval into a single heard sound whose timbre corresponds to the spectrum of the initial, directly transmitted wave. Set single stops in succession, one at a time, while holding a key depressed. Observe different, characteristic timbres of the continuing sound.

18) **Timbre vibrato.** Because of organ pipes' resonant character, and of differing re-enforcements and attenuations of differing wavelengths by pipes' environments, tremulant devices on an organ's wind supply generate rhythmic fluctuations not only in loudness and pitch, but also in relative harmonic amplitudes and corresponding timbre. Mathews and Kohut have demonstrated the crucial musical role of timbre vibratos in violins, and recognized its importance for organs.[9] Set an 8′ diapason stop and the tremulant. Depress and hold a key, observing if possible the fluctuations in timbre as well as pitch and loudness of the continuing tone.

19) **Organ pipe tone.** Especially properties 3, 4, 6 and 17 contribute to what may be called organ pipe tone. About 650 nominal varieties of pipe organ tone have been developed over the past 2,000 years. They share the initial speech and continuing tone of pipes blown by a buffered wind supply, as distinguished from the more expressive sound of orchestral instruments blown by human breath. Contrasting with orchestral sound, pipe organ sound has its own rich musical potential. It is usually more quieting than exciting, but capable of great variation. Set different stops in succession, one at a time. Depress the same key after each stop is set. Observe the organ pipe quality of the sound's speech and continuing tone.

20) **Successive inconstancies.** Because organ pipes speak and sound independently of each other, the phases of their air waves are free to coincide and mutually re-enforce their sounds at a listener's ears, or to oppose each other there so as to weaken their combined effects. This random phase independence causes closely or perfectly tuned, octavely related pipes or corresponding pipes in the different voices of a chorus to sound more or less differently on different successive occasions of speaking together, and so to add complex change and corresponding musical interest to the overall sound. Set two 8′ stops. Repeatedly depress and release a key which sounds two closely tuned pipes (i.e., which generate no or very slow beats or spatial movements). Observe differences in the sound on the different occasions of key depression.

21) **Speech coherence.** Except for the very slightly differing times which a keyed wind pressure front requires to reach different pipes on a slider windchest channel, and for differences in latency of response of different kinds and sizes of pipe, tracker organ pipes controlled by the same keys speak together. When, as in many Romantic organs, pipes are turned on and off by pneumatic or electromagnetic valves at each pipe, the tendency of such devices to respond at different rates causes the pipes to begin speaking at noticeably different times. The characteristically less clear speech of Romantic organs tends to make the time differences less noticeable, but at the cost of clarity in their rendered musical forms (see 33,

below). Set two or more stops. Depress any key. Observe the concurrence of the paired notes' beginnings.

22) **No difference tones.** A difference tone is a rough, strident tone, usually low in pitch and heard as though coming from inside the listener's head, which occurs when two intense high frequency sources, situated close together in space and differing slightly in frequency, sound concurrently. The frequency of the low pitch difference tone equals the difference between the frequencies of the two sources. Pipe organs do not generate difference tones, because their high frequency pipes have relatively moderate intensities and are separated in space, so that any beats which they generate are of low amplitude, usually out of phase between the two ears, and therefore not heard binaurally as beats. Set a loud stop of high register. Depress the two highest keys, observing the absence of a difference tone.

23) **Moderate interactions.** Interactions (beats, spatial movements) of the sound of slightly mistuned pipes, of their harmonics with different harmonics of pipes of different pitch, and of neighboring notes on the tempered scale, may be animated or even astringent, yet remain musically interesting and free from stridence and excessive roughness. These moderate effects result from the spatial separation of organ pipes that are in optimal mistune. The designed interactions of spatially adjacent, slightly mistuned ranks of a pipe organ's celeste stop are moderate because the two ranks are at least slightly separated in space, in very slight mistune, and of low intensity. Set two or more stops of the same register. Press single keys in succession, one at a time. Or set one stop and hold two or more keys concurrently at different intervals within the octave. Observe musically moderate beats and spatial movements of the tones, and their lack of extreme roughness or stridence.

24) **No intermodulation distortion.** When any monophonic system is so overloaded with very intensive low frequencies that it is driven out of its range of linear function, its output of concurrent high frequencies is not always proportional to their input, so that the low frequencies in effect modulate the high ones, causing them to ripple or gargle in a musically unpleasant fashion. Pipe organs do not suffer from such intermodulation distortion, because their low frequency pipes are spatially separated from their high frequency ones, so as to reduce their interactions by rendering binaurally asynchronous most beats which they may generate. Set stops of the highest and lowest registers. Depress and hold keys sounding the instrument's lowest and highest notes. Observe the steadiness of the high note.

25) **Minimal tonal masking.** Romantic pipe organs, which achieve loudness through use of high wind pressures, thereby cause low pitch tones to mask (attenuate or weaken) the audible sound of high pitch pipes. For this reason, loud playing of such instruments obscures their own high pitches and the voices of soloists, choirs, and entire congregations. Baroque organs, which achieve loudness by adding voices of higher register at low wind pressures, do not mask higher pitches. Set stops and controls for maximum loudness. Depress and hold keys for low and high notes together. Observe the continuing audibility of the high notes.

26) **Chorus effects.** Anyone who listens carefully to two or more pipe organ voices being played together can detect a variety of musical changes in their continuing sound. One can hear not only the sedate pulsing of pairs of very slightly mistuned pipes and the more rapid and astringent fluctuations in loudness of pipes in greater mutual mistune, but also substantial lateral alternations in the perceived spatial location of the continuing sound or its elements. The sound appears to move laterally in space, rhythmically or more complexly, depending on the harmonic similarity or complexity of the concurrently sounding pipes. Tones may also be heard to change rhythmically in pitch, and to break up into their component harmonic sounds which then move rhythmically at different rates and in different directions at the same time.

The spatial and loudness changes have a presently known basis. In free air, a sinusoidal wave source having a given lateral location in front of a listener generates a wave whose phase at the listener's left ear differs from its phase at his right ear, or an "interaural wave-phase difference." A second sound source at a different lateral location generates a second interaural wave-phase difference which *differs in angular degree* from the first. If the two sources are slightly out of tune with each other, the listener hears a loudness beat in either ear when the other ear is stopped. If also the *angular difference* between the two interaural wave-phase differences equals 0° (or 360°), the *binaural* listener will hear a single, strongly beating tone localized at a point between the two sources. But if, instead, the angular difference between the two interaural wave-phase differences equals 180°, the binaural listener will hear a single steady tone moving rhythmically back and forth between the two sources. In the first instance, the beats, which are still audible as single beats in each ear when the other ear is stopped, are exactly in phase between the two ears, so as to generate a single, stationary, binaurally heard beating tone. In the second instance, the beats in the two ears are exactly opposite in phase, so as to generate a single binaurally heard tone of constant loudness which is heard as moving rhythmically back and forth between the two sources. When the angular difference between the two interaural wave-phase differences equals a value other than 0° (360°) or 180°, the binaural listener will hear a single tone which both moves and beats, with the movement being more prominent, the closer the angular difference to 180°, and the beat being more prominent, the closer the angular difference to 0° (or 360°).

While the physical conditions of beats and movements in free air audition can be described in such manner, both in free air and reflective rooms heard beats and movements themselves result directly, not from the physical conditions but from initial responses of the listener's auditory system to those conditions. This indirect relation of beats and movements to air waves is evidenced by the fact that the complexity of a pipe organ's observed beat-movement patterns in a room corresponds to the complexity of the current precedence effects, and not to the enormously complex wave patterns which can occur at any point in a reflective room.

Thus, different pairs of concurrently sounding, slightly mistuned, spatially separated organ pipes display musical fluctuations differing not only in amplitude and rate, but also in movement-beat ratio. A given piece of music or a given pipe organ may display a characteristic overall balance of changing movement-beat ratios. The differing movements, the generally moderate loudness beats, and their changing values and ratios as the music progresses, render the total sound more complex and musically more interesting. Audible changes in pitch and timbre may accompany the spatial movements. For these reasons, the sound of sustained chords and choruses is not only rich in timbre but also warm and animated—especially when full organ, the living sound, heard within a space-filling image of steady tones, is unmatched by any other. Set two stops of the same register. Depress and hold a single key. Repeat with other single keys. Observe the beats and spatial movements, and their different rates and balances, from one depressed key to another.

27) **Mistune tolerance.** Because a pipe organ's sound sources are spatially separated, their mistune produces spatial movements and moderate loudness beats which remain musical even when rapid, so that the instrument is quite tolerant of mistune. Set two stops of the same register. Depress and hold a single key. Repeat with other single keys. Observe that the more rapid beats and movements remain musical.

28) **Wide dynamic range.** Because of its generally moderate loudness beats, a pipe organ can be played loudly without becoming strident. Play the instrument as loudly as it can be played. Observe that its beats and spatial movements remain musical and moderate relative to the increased volume of sound.

29) **Clear speech.** As noted by Albert Schweitzer and others, tracker organs' open pipe cases, low wind pressures, unnicked pipes, speech coherence intrinsic to slider windchests, and employment of higher register ranks for increased loudness, altogether lend such instruments greater clarity of speech. Nicked pipes, swell boxes, and tonal masking at higher sound volumes, which together characterize Romantic organs, make their speech less clear than much outstanding organ music requires. The above references to precedence effects in localization and perceived timbre (see 9 and 17, above) cite the perceptual fusions of the first 40 milliseconds of a source's direct and reflected waves into a single, unitary

heard sound. Similar waves arriving at a listener's ears after longer intervals are heard as distinct and possibly reverberant. That is, the listener's auditory system distinguishes quite sharply between original sound reflections and subsequent reverberation, enabling the clear speech of tracker organs to be heard as such even in rooms having quite long reverberation times. Unclear tracker organ speech in a highly reverberant room appears to be due not to reverberation itself, but to one or another configuration of the instrument's setting which reduces the amplitudes of the initially reflected waves that are essential to precedence effects' perceptual distinction of them from subsequently reflected waves. Set any stop or stop combination. Repeatedly depress any key or group of keys, observing the definiteness of the times of tonal onset. Play a melody or counterpoint, observing the sharpness of the musical forms.

30) **Voice signature.** Pipes' clear and distinctive speech, optimal mistune and spatial separation, and quasi-randomly varying properties not only sharpen the identity of a pipe organ voice when it is played alone, but also preserve both distinct identities and the sensed presence of multiple voices when two or more voices are played together. The optimal mistune and spatial separation of corresponding pipes in different voices are especially important conditions of such voice signature. Set two stops of the same register but different timbres. Depress and hold a key, observing the movements and beats of harmonic pitches *common* to the notes in the two voices, and the steadiness, distinct identities, and various spatial locations of harmonic pitches *not* common to the two notes.

31) **Octave signature.** Organ pipes' spatial separations and slight mistune preserve both the identities of octavely related pipes and the distinctive octave quality of their combined sound when the pipes are played together. Set any stop. Depress two keys an octave apart, observing the beats and spatial movements of harmonic pitches *common* to the two notes, and the steadiness, distinct identities, and different locations of harmonic pitches *not* common to the two notes.

32) **Note signature.** A pipe tone's fully individualized speech and continuing sound, and its optimal mistune and spatial separation from other pipes, together preserve both its identity and the quality of its relationships to concurrently sounding pipes. Note signature in Romantic organs is less clear because of their tonal masking and less clear speech. Set any stop. Depress and hold keys sounding a chord. Selectively attend to any one note in the chord, observing its distinctive identity and location as well as pitch.

33) **Clear musical forms.** Pipe organs having clear voice-, octave-, and note signatures preserve the musical forms of chords and counterpoint as well as those of melodies. A loud, unchanging and undifferentiated sound of many pipes may be impressive and not entirely lacking in musical interest, but it must soon change if it is to sustain such interest. Instruments which lack clear signatures attract fewer listeners over long periods of time, because their sound lacks the complexity of form and corresponding capacity for change which are necessary to enduring musical appeal. Play contrapuntal music, observing the clearly preserved identities of the inherent musical forms.

34) **Inter-voice balance.** This comprehensive property is especially dependent on voice signature, because balance of voices is meaningless unless voices remain distinguishable when played together. Inter-voice balance obviously assumes different forms in different types of organ, and is characterized by different kinds and degrees of design constraint. Greater constraint does not necessarily signify less musical or versatile balance. It may instead provide both designer and performer with the guidance necessary to realization of an instrument's full potential. Together with innovations in organ pipe tone (see 19, above), intervoice balance offers major possibilities of advancement of pipe organ sound. Set stops and stop combinations which are appropriate to the various kinds of music which the instrument will be expected to render. Play appropriate musical phrases or numbers. Observe the musicality of each registration.

35) **Instrumental signature.** A good part of pipe organs' musical value lies in the individuality of the instruments themselves, and a good part of such individuality follows from the impossibility of hand-fabricating two identical pipes, let alone two identical pipe organs with identical environments. Builders' styles in tone and balance, and their adaptations of designs to different uses and acoustical settings, further diversify instrumental signature. Pipe organ sound is not one sound or the sound of one instrument alone, but a rich variety of sounds of a variety of instruments, whose distinctive musical quality remains recognizable even as its limits of variation remain indefinite. Play given musical numbers on different examples of the type of instrument under study. Observe the differences in the sound of different instruments of the same type.

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Some conclusions

The above analysis illustrates brief acoustical descriptions and explanations of pipe organ sound. The analysis does not supplant the global musical judgments of sound which must continue to guide pipe organ design and selection. Most people do not listen to pipe organs to indulge in acoustical analysis. However, concepts and terms like those of the analysis can facilitate insight into an instrument's musical defects and limitations, suggest their underlying reasons, and imply new designs. The terms can clarify designers' and voicers' communications between themselves and others. The concepts can be cited and demonstrated as explanations for organ committees' overall musical judgments. The demonstrations can support estimates of an instrument's power to retain listeners. Organ committees can not only distinguish good pipe organs from less musical organs, but also be assured that their distinctions rest on communicable and demonstrable matters of fact, and that their chosen instrument will continue to be enjoyed by others. ■

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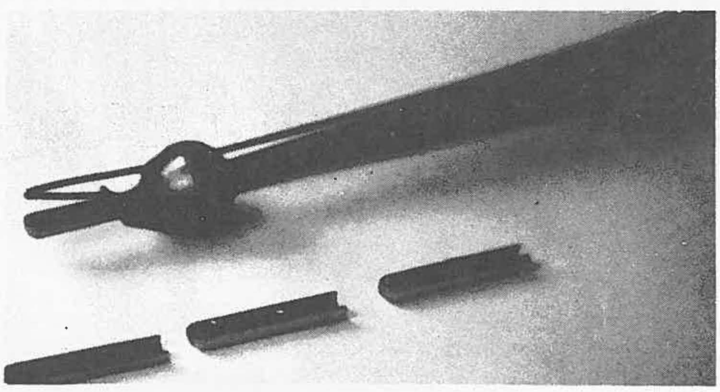
7. William D. Turner. *Basic Musical Differences between Pipe Organs and Contemporary Electronic Organs*. Moylan, Pennsylvania, 1975; Laurel, Maryland, 1979.
8. Roderick Junor. "The Electronic Organ," THE DIAPASON, March 1983, pp. 6–12.
J. S. Keeler. "The Attack Transients of Some Organ Pipes," *IEEE Transactions of Audio and Electroacoustics*, Vol. AU-20, no. 5, December 1972, pp. 378–391.
9. M. V. Mathews and J. Kohut. "Electronic simulation of violin resonances," *The Journal of The Acoustical Society of America*, 1973, vol. 53, no. 6, pp. 1620–1626.

Dr. Turner is a nominally retired academic psychologist and University of Pennsylvania social work dean who has taught at Bryn Mawr College and M.I.T., and has functioned as a management consultant. IN 1919, he began to learn about pipe organs, pumping, playing, and repairing a one-manual Hinners tracker organ in his church in Heyworth, Illinois. Graduate study at Harvard University taught him to listen carefully, think about what he heard, and teach others to do so. Subsequent European travel and study prepared him to translate Albert Schweitzer's 1906 and 1927 essays which invited the current tracker organ revival. In 1972, he and his wife Pearl (deceased) recorded the individual notes of the surviving Schnitger organs. His persisting appreciation of pipe organs and their sound, and an incidental interest in electronics, led him to invent an economically feasible electronic transfer organ designed to create sound having all the known properties of pipe organ sound. He believes that pipe organ manufacturers may need to diversify their organ building art to include such instruments so as to capture the broader organ market from electronic instruments that are less musical than pipe organs.



New Organs

COVER:

J. F. Nordlie Company, Sioux Falls, SD, has installed a new tracker organ in Augustana College, Sioux Falls. The design follows the classic traditions of the 17th and 18th centuries of northern Europe. Although presently of two manuals and pedal, a gift has been received by the college to complete the third manual. Casework is built of solid red oak, finished with tung oil. The hand turned stop knobs and the naturals of the manuals are of ebony; sharps are of satinwood plated with cowbone. Keydesk and keycheeks are of zebrawood. Wind pressure is 80 mm.

GREAT
16′ Quintaton*
8′ Principal
8′ Rohrflöte
4′ Octave
2⅔′ Quint
2′ Octavin
1⅗′ Terz
1⅓′ Mixture IV–V
8′ Trumpet

SWELL
8′ Viola
8′ Celeste
8′ Gedeckt
4′ Prestant
4′ Koppelflöte
2′ Doublette
⅔′ Scharf III
16′ Dulzian
8′ Oboe
Tremulant

POSITIV*
8′ Singendgedeckt
4′ Rohrflöte
2′ Sifflöte
½′ Cymbal II
Cornet V (a°-d‴)
8′ Regal

PEDAL
16′ Subbass
8′ Principal
8′ Pommer
4′ Choralbass
2′ Nachthorn
16′ Posaune
8′ Trumpet
4′ Schalmei

*prepared for

Lee Organs of Knoxville, TN, has installed a two-manual, 18-rank organ in Sacred Heart Church of Lawrenceburg, TN. The main organ is placed in a 5-bay case at the rear of the gallery using 8′ Principal pipes as the façade. A floating antiphonal division is placed in the chancel. The action is electromechanical; some pipework has been retained from an earlier organ.

GREAT
8′ Principal
8′ Gedackt
4′ Octav
2′ Blockfloete
III Mixtur
8′ Trompette

SWELL
8′ Bordun
8′ Viole
8′ Voix Celeste
4′ Flute Harmonique
2′ Doublette
Tremulant

ANTIPHONAL
8′ Hohlfloete
4′ Prestant
2′ Waldfloete
1⅓′ Quinte

PEDAL
32′ Resultant
16′ Subbasse
8′ Principal
8′ Bassfloete
4′ Choralbass
4′ Floete
16′ Kontragedackt (Ant.)

Richard L. Bond, Portland, OR, has completed a new two-manual organ for the residence of Nancy Metzger, also of Portland. The instrument employs a "double-draw" mechanical stop action which eliminates the need for a manual coupler. Suspended mechanical key action is used for the manuals. The organ speaks on 75 mm of wind pressure and is tuned in Kirnberger III temperament. A winker with cutoff permits steady or flexible wind. Pedalboard is straight but concave, with 30 notes. Façade pipes (8′ Principal) are 85% lead. The red oak case was finished and gilded by the owner.

MANUAL I
8′ Principal (TC)
8′ Gedact
4′ Octave
4′ Rohrflöte
2′ Superoctave

MANUAL II*
8′ Gedact
4′ Rohrflöte
2′ Superoctave

COUPLERS
Manual I/Pedal
Manual II/Pedal

*by transmission

John M. Crum Pipe Organs, Cobleskill, NY, has installed a new organ in Trinity Lower East Side Lutheran Parish of New York City. Both Principal ranks are of 75% tin; flutes are of hammered lead with domed caps for added tuning stability. Wind pressures are 50 mm for the manual, and 60 mm for the pedal reed. The 56-note manual uses teak for the naturals and grenadilla for the sharps; pedalboard of 30 notes is concave and radiating according to B.D.O. standards.

MANUAL
8′ Lieblich Gedeckt
4′ Rohrflöte
2′ Prästant
1⅓′ Prinzipal Quinte

PEDAL
16′ Rankett

Music for Voices and Organ

by James McCray

The Tidings of Christmas

Webster's Dictionary tells us that the word tidings is sometimes construed as "to sing," but basically means a report or message. Christmas tidings fit both of these meanings; various phrases have been universally used on Christmas cards and set to music. Singing the words can give them new meaning or, as often happens, stamp them with an unforgettable character. *God Rest Ye, Merry Gentlemen* or *God Rest Ye Merry, Gentlemen* is a case in point. The placement of the comma changes the meaning of the text, and because of the tune associated with it, we have developed a distorted interpretation of the original tiding.

Silent Night, Holy Night has become one of the most popular traditional Christmas melodies; for most of us, it is difficult to say those words without mentally hearing the rhythm and melody of Gruber's setting. Almost every child who has been in a Christian church in the past 75 years has heard and sung those words, and it is doubtful that much thought is given to them. It is similar to "The Lord's Prayer"; habit without much serious intellectual interpretation.

The tidings of Christmas are varied and the music adds much to the spirit of the season. Can anyone imagine the celebration of Christmas without music? I doubt it, because they are inexorably linked, just as are Walt Disney and animal characters. To think of one automatically conjures up the other. Happily, both are enhanced because of the bond. Christmas is a time of immense joy. For the traditions and tidings to burst into song reveals a human expression that is truly celebrative. The source of all of these customs is the birth of God's Son and the fulfillment of an ancient promise. Angels sang to announce the birth, and we should sing to recall it. The tidings of Christmas are important, still relevant, and offer hope.

The music reviewed this month emphasizes two types of tidings. Some of the pieces are fresh settings of a familiar text and/or melody, while other works bring the message in a completely new form. All works are recent publications which "report" the ancient story.

***Angels We Have Heard on High*, arr. Dede Duson. SATB, two trumpets, two trombones and optional keyboard, Neil Kjos Ed. 8641, $.70 (M–).**

Much of the singing is unaccompanied; the optional keyboard material is used during the flowing refrain to briefly add to the joyful character. Brass parts are simple and in a fanfare style. The familiar French tune and English text are given a new rhythmic twist in this 3/4 setting. This would serve as a useful introit or as a brief anthem for any church or school choir.

***There Is No Rose*, Ronald Corp. SATB and organ, Novello and Company, No. 29 0499 03, $1.10 (M).**

This carol setting has a haunting quality that creates a wonderful mood. Using an organ pedal tone over which the men sing a simple dorian melody, the music is interrupted by the Latin responses of the text, sung by a three-part women's choir. This material has a tonal center a tritone away from that of the men, providing the effect of intrusion or surprise. All of the individual parts are easy, but the choral work will be delicate because of the unaccompanied style and harmonic shifts. Highly recommended to church choirs.

***Magnificat*, Marcin Mielczewski (d. 1651). SATB, keyboard and strings, Roger Dean Publishing Co., CC–87, $3.50 (M+).**

Mielczewski was a Polish composer for the Royal Court of King Wladyslaw in Warsaw. Frank Pooler's new edition has both Latin and English texts and includes the Gloria Patri. The choral score seems long, but because all of the instrumental parts are included there actually are only 148 measures of music in the 56 pages. There are SATB vocal soli for about half of the music, and those lines tend to be more ornamented in style. A conservative seventeenth-century harmonic scope provides no surprises. The easy vocal and instrumental parts make this suitable for most church situations, as well as with high school musicians.

***Coventry Carol* (Lully, lulla, thou tiny child), Sydney Hodkinson. SATB, piano or organ and/or handbells, Merion Music of Theodore Presser Co., 342-40147, $.65 (M+/D–).**

This setting is not a development of the familiar tune, but rather a new musical setting of the sixteenth-century Croo text. The meters shift between 5/8 and 6/8, and there are sudden tonal shifts which centralize around d minor, but with short excursions into distant tonal areas. Handbells may be used alone or, if in combination with the organ, in an orchestration designed by the conductor. There is a soprano solo for the final verse with a relatively high tessitura. This interesting, fresh approach to the text is recommended to those church and school directors seeking something different.

***Ave Maria* (Op. 23, No. 2), Felix Mendelssohn. SSAATTBB, tenor solo and organ, Unicorn Music Company, 1.0021.2, $4.00 (M+/D–).**

Although there are brief moments of antiphonal singing, this is more of an eight-part choral texture and very contrapuntal. Although the cover only mentions the tenor solo, which is brief and easy, there are other short vocal soli, too. There is an error in the keyboard on page three; it should indicate bass not treble clef. Only a Latin text is provided by the editor, Leonard Van Camp. This motet would require a large choir, and would work well with a good high school group. The organ music on two staves is not difficult.

***The Gift*, Edwin Earle Ferguson. SATB and keyboard, Walton Music Corp. WW 1016, $.55 (E).**

The keyboard consists of a perfect fifth ostinato pattern of short eighth notes which is contrasted with legato choral lines. The music has some warm harmonies and is notated on two staves for the choir. There is a rhythmic notational mistake on the last page; the duplet figures are unnecessary because of the augmentation dots used. This setting is simple enough for any small church choir.

***Baby Boy, so Weak and Little*, Robert Kreutz. Two Equal voices and keyboard, Epoch Universal Publications (Phoenix, AZ), KR–17, $.35 (E).**

There are five strophic verses in this three-page setting. The music could be sung by young voices or soloists, and is notated on one staff in the treble clef. A simple accompaniment doubles the voices and includes a short bell-like interlude. Attractive, easy music.

***Christmas Carol Concertato*, Gerhard Krapf. SATB, soprano solo, flute and organ, Sacred Music Press, No. S–277, $.95 (M).**

Krapf's concertato is gentle, sweet music that draws on several familiar carols such as "In dulci jubilo," "Joseph dearest, Joseph mine," and "Ubi sunt gaudia." Often the choir has unaccompanied singing and some sections use a chamber group from within the large ensemble. The melodies are recognizable with only slight changes. There are many organ interludes with the solo flute; a separate flute score is included at the end. The rhythmic flow frequently uses a hemiola. Some of the original Latin is retained, but most of this twenty-page work is in English. Well written and highly recommended.

***Christmas Canticle*, Charles Romer. SATB, Unison and keyboard and handbells, Choristers Guild, A–257, $.85 (E).**

The unison areas, or at least some of them, could be sung by a children's choir so that with the adults, handbells and keyboard this setting could involve numerous factions of the local church's musical world. The insertion of the 5/8 measures on the "alleluia" helps to give it a distinctive flair. Twenty-one handbells are needed; the part is included separately at the end. Limited four-part choral writing, attractive yet easy music, suitable for any small choir.

***Puer Nobis Nascitur*, Alice Parker. SSATB and piano or orchestra, E. C. Schirmer, 3101, no price given (M).**

Parker's setting of this traditional melody is as a fast, rhythmic march. The meters alternate between duple and triple with some mixed meters so that constancy is avoided. Two of the verses are in unison; the other are SSA, TB and SATB. The keyboard is used throughout the entire setting and, while not difficult, necessary to the success of the performance. This is a good treatment of the popular Christmas tiding, and would be of particular interest to high school directors.

***Heart of the Jesus Child*, Alexandre Guilmant (1837–1911). SATB, soprano or tenor solo and organ, McAfee Music of Belwin Mills Publishing Corp., DMC 8181, $.75 (E).**

This charming piece has five verses which are sung by a soloist, comprising most of the work. The chorus sings a brief homophonic refrain and is less important. The organ music is accompanimental, on three staves and includes registrations by the composer. By using different soloists from the choir for the various verses, this could be the piece that will touch the congregation as much as any other seasonal music.

***What Child Is This*, arr. Robert J. Powell. SATB, congregation, strings and organ, G.I.A. Publications, G–2446, $.70 (M–).**

The string parts could be played by a string quartet or a larger ensemble; the instruments are important to the character of this setting. There are three verses with the congregation singing all in unison. In the first, the choir joins the congregation in unison; the second features a separate choral part which is in hymn style; and in the last verse the sopranos have an obbligato while ATB sings the melody in unison. This is a functional arrangment which uses the true Dorian version of the Greensleeves theme, and it could be used in almost any church choir situation.

***Welcome Yule*, Tony Hewitt-Jones. SATB divisi and organ, Roberton Publications of Theodore Presser, No. 85138, $1.00 (M+/D–).**

The organ part is splashy and soloistic, but used selectively throughout the six verses and extensive closing section. The music is fast and dance-like with registrations given by the British composer. Choral writing is elaborate, mildly challenging and uses full vocal ranges, especially for the men. There is a mixture of contrapuntal and homophonic textures with a climactic ending. This anthem will need a very good choir, and would be suitable for colleges wanting a rousing opening or closing piece for their annual concert.

***Sound the Trumpets and Ring the Bells*, Robert Leaf. Two Parts, optional trumpet and handbells, with organ, A.M.S.I. No. 427 (M–).**

The choral music is one theme predominantly in unison with some harmonic lines for the second voice. Handbells are doubled by the organ and consist of static chords. The trumpet serves as an obbligato instrument, and is used on the first and third verses only. This piece could be used by children, youth or adults, and is a happy, simple anthem for any Christmas occasion.

***Gabriel of High Degree*, Geoffrey Bush. SATB and organ, Basil Ramsey of Alexander Broude Inc., No. 1045, $1.20 (D–).**

Subtitled "A Carol of the Annunciation," it uses a macaronic text in Latin and English. There are soli for soprano and tenor. The music is mildly dissonant and more contemporary sounding than some of the other music reviewed this month. Bush uses full vocal ranges and this anthem will take a strong, solid adult choir. The organ part is very busy with detailed registration suggestions, and acts as an equal partner for the singers. Sophisticated, fine music.

A New Discovery in the History of the Organ

Michael Wm. Lefor

The recent controversies over the historically and tonally correct style of organ-building during this period of the *Americanische Orgelbewegung* have encouraged me to reveal the history and nature of a unique instrument, the study of which should prove a valuable aid to organ scholars and musicologists. The truly remarkable organ[1] I describe in this short report was discovered by me during a recent tour of the Low Countries. It is located in the west end of the St. Bombeniuskirche in Limburg, Belgium. The St. Bombeniuskirche was founded by a group of Bavarian immigrants to Belgium in the early 1600s. It would seem that the St. Bombenius congregation had been expelled from a particularly fanatical Protestant region of their homeland, due largely to their ardent devotion to the keyboard family's greatest member—so devoted that this group of organ enthusiasts was ignorantly accused in the local press of "organ-worship."[2] A decree of 1601[3] issued by the local nobility forced their departure to more amiable surroundings in Limburg.

Once in Belgium, the St. Bombenius congregation seems to have put all of its resources (derived largely from cheese-making) into the construction of the church and the building of the organ. By the time the organ was completed, however, the congregation, by this time financially exhausted, had dwindled considerably. A remnant remained until the present day, however.

The organ was heavily damaged during aerial bombing of a nearby cheese factory in World War I, and the financial crash of the late 1920s made repair of the bellows and pipe-work impossible. After a silence of almost 70 years, however, the organ spoke once again. I was privileged to be present at its re-inauguration in August of 1983. This magnificent organ was only able to speak again after an unprecedented gift of 150,000 Fl. from one Johann Christiaan Schmerztön, a descendant of the original builder, Andreas Gottfried Eisenmann (1646–1709). We know of Eisenmann's dates from historical records and standard texts, but most of the builder's plans, notes, and other data relating to the St. Bombeniusorgel, as well as anything relating to the builder himself, have been lost. It almost seems as if History had wished to eradicate him completely.

The prestigious North German firm of Stroller & Co. rebuilt the organ of the St. Bombeniuskirche to what seems to have been its original specifications[4] during a period of five years of arduous labor which called for all the engineering and tonal finishing skills they could muster. The physical layout of the instrument is noteworthy because of its many departures from standard, empirical principles of organ-building laid down through preceding centuries. Perhaps most striking is that, because of the incredibly loud sonorities of some of the ranks (and the desire, it seems, to bring the sound of this magnificent instrument to the general public), the organ speaks to the *outside* of the building through an elaborate arrangement of manually operated swell shutters (Fig. 1). The use of swell shutters of this type presages their first appearance in Long Island, NY in 1939, as well as the practice followed in early twentieth-century America of placing the entire instrument under expression. Within the building, therefore, the resonant and sometimes startling tones of the organ can reach the congregation at a comfortable level, while shepherds on distant hilltops can be accompanied by pleasant background music as they guard their flocks.

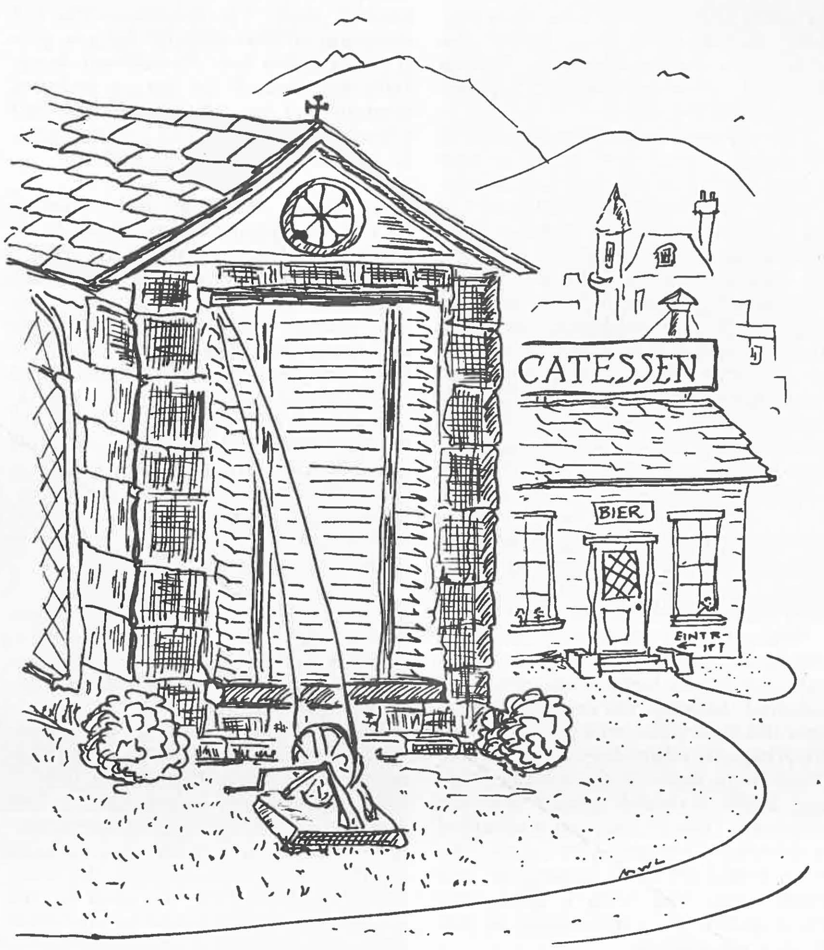


Figure 1. West Façade of the St. Bombeniuskirche, Limburg, Belgium, showing the swell-shutters. Author's sketch, August, 1983.

The St. Bombeniusorgel contains 3,223 pipes distributed among four manual divisions and a pedal division fitted with a double pedalboard.[5] The instrument operates on wind pressures ranging from a light Baroque 1⅞ inches on the Oberwerk to a pressure of 40 inches in the Senf III in the Pedal to 150 inches of steam on one rank in the Unterwerk. The case arrangement is further remarkable in that the console is placed on *top* of the instrument, and the chests and trackers are all reachable from floor level. It may be deduced from this that the original curator of the instrument was something of an acrophobe, having no desire to teeter off narrow platforms some 40 feet above the floor in order to tune the pipes or brush the pallets. The organist, however, is raised to the console by a dumb-waiter arrangement of a counter-weighted platform operated by ropes. On days of low church attendance it is possible for the organist to be stranded at the console, particularly after a bad performance. (See Pedal II in the Stoplist and note 6.)

Tuning varies from equal temperament to meantone to several Kirnberger chains, but it was not possible for this listener to tell what rank was tuned to *what*. However, I did notice a somewhat undulating effect when any two stops were played together, but that may have been due to the effects of jet lag or to one of the pedal stops.

STOPLIST
St. Bombeniusorgel
Limburg, Belgium

OBERWERK[6]

32′ Prinzipal
2′ Prinzipal
16′ Quint
4′ Halboctaav
8′ Geschmakt
⅛′ Superduperoctaav[7]
8′ Dulzimer
2′ Cigaarflute
7′ Gegen
3′ Harmonia Nausea
2′ Cainflöte
8⅓′ Verhasstlich Gedeckt
IV Klink
16′ Rösti
VIII Rackett

UNTERWERK[8]

1⅗′ Schmerzflöte
128′ Auserordentlicher Grossphonondiapason[9]
8′ Raunchpfeife
5′ Flute Disharmonique
8′ Dampfschlück[10]

SCHNELLWERK

1′ Vox Celesta
16′ Vox Inferna
2′ Cremona
0′ Nichthorn
1½′ Semialtera
V Cornet
8′ Eiweiss
4′ Helmsschraube
8′ Rohr Schleimei
5⅙′ Barbarella
⅛′ Octoroon
15′ Narrflöte
16′ Vogelgesang
5⅙′ Scarlatti
6¾′ DeGaulle

BRUSTWERK

8′ Trompette[11]

PEDAL (I)

Pullups to Oberwerk

PEDAL (II)

32′ Westphälschen Schwarztbrot
16′ Bayerischer Schinken
1′ Pickel
2 lb. Emmenthaler
III Senf
2 qt. Bier
2′ Delicatessenglocken

MECHANICAL

Oberwerk/Unterwerk
Unterwerk/Oberwerk
Pedal II/Delicatessen
Senf/Schweinefleisch
Superoctaavkupplung (Schnellwerk)
Suboctaaaavkupplung (Unterwerk)
Tremolo (?)

The author hopes that this report will aid the musical community in the proper historical interpretation of Low Country organ music and certain aspects of organ-building. A further article may deal with registration of early Baroque and pre-Baroque organ music on the St. Bombeniusorgel, music to which it is particularly well suited. ■

NOTES

1. Locally, the instrument is known as the *Grosskäseorgel*.
2. *Bayerischer Staatsbeitung und Herald*, vol. CXX (June 23, 1599). p. 27.
3. Clemens, S. L. [pseud. Mark Twain]. *1601: or, Fireside Conversation as it was in the Time of the Tudors*. Privately printed. 25 pp.
4. Reconstructed from notes found on discarded recital programs among the Church records.
5. *q.v.* Audsley, G. A., 1905 [1965]. *The Art of Organ-Building*. Dover, NY, p. 145, pl. CV for an example of this type. The double pedal clavier of the St. Bombeniusorgel differs from others of its form in that the upper pedal keys control a series of bell-signals to a nearby delicatessen (still standing, see Fig. 1) in addition to a 1′ Pickel.
6. The stoplist reveals the unusual connection between the Church and the nearby delicatessen. This may have been designed as a convenience for the organist during lengthy sermons or recitals, as well.
7. The pipes of this rank are too small to be seen in the upper registers, and are a testament to the skill of the early builders.
8. Located in the Undercroft.
9. Placed horizontally in an abandoned mine-shaft underneath the Church. An alternative name for this stop is "Erdbebe."
10. This rank is blown by 150 inches of steam from the expresso machine in the delicatessen.
11. Located on the outer east wall of the Church. This rank is blown on 75 inches of wind, is triple-scaled, and tuned to unequal temperament.

Michael Wm. Lefor is a botanist and organ historian who resides in Storrs, CT.

Organ Recitals

BRIAN ARANOWSKI, Second Presbyterian Church, Indianapolis, IN, May 20: *Communion, Sortie (Messe de la Pentecôte)*, Messiaen; *Allein Gott in der Höh' sei Ehr'*, S. 662, 663, 664; *Concerto in A Minor after Vivaldi*, S. 593, Bach; *Sonata II*, Hindemith; *Adagio, Final (Symphonie VI)*, Vierne.

ROBERT BAKER, Yale University, New Haven, CT, May 6: *My heart is filled with longing; My heart is filled with joy; Jesus, thou my savior, lead me on*, Brahms; *Fantaisie in A, Cantabile, Pièce Héroïque*, Franck; *As now the sun's declining rays*, Simonds; *Comes Autumn Time*, Sowerby; *Concerto in A Minor after Vivaldi*, Bach; *Vocalise*, Liszt; *Coronation March* from *Le Prophète*, Meyerbeer.

MICHAEL CORZINE, Hand Memorial United Methodist Church, Pelham, GA, May 6: *Plein jeu, Basse de Trompette, Chromhorne sur la Taille, Offertoire sur les grands jeux (Messe pour les Couvents)*, Couperin; *Es ist das Heil uns kommen her*, S. 638; *O Mensch, bewein dein Sünde gross*, S. 622; *Christ lag in Todesbanden*, S. 625; *Fantasia and Fugue in G Minor*, S. 542, Bach; *Prélude, Fugue, and Variation*, Op. 18, Franck; Three settings of *Ein' feste Burg ist unser Gott*, Hanff; Walcha; Hymnal; *Prélude et Fugue sur le nom d'ALAIN*, Op. 7, Duruflé.

DAVID CRAIGHEAD, House of Hope Presbyterian Church, St. Paul, MN, May 20: Chorale Partita *Sei gegrüsset, Jesu gütig*, S. 768, Bach; *Livre d'orgue*, DuMage; *Symphony VI*, Vierne.

H. EDWIN GODSHALL, JR., Trinity Lutheran Church, Hagerstown, MD, July 6: *Variations on "America,"* Ives; *Variations to "The Sicilian Hymn,"* Carr; *Sonata VIII in D Major*, Moeller; *Variations on "Adeste Fideles,"* Taylor; *Mr. Pelham's Minuet*, Pelham; *Variations on "Yankee Doodle,"* Anonymous; *Scherzo (Grand Sonata in E-flat)*, Buck; *Scherzo-Cats (American Suite)*, Langlais; *Pastorale and Aviary*, Roberts; *Sonatine for Organ, Pedals Alone*, Persichetti; *Fantasy on "A mighty fortress,"* Paine; *Will there be any stars in my crown?* Thomson; *Prelude on "Toplady,"* Bristol; *Wondrous Love*, Barber; *Concert Variations on "The Star Spangled Banner,"* Buck; *Sweet Sixteenths*, Albright.

BARBARA HARBACH, Nazareth College, Rochester, NY, June 20: *Fantasy and Fugue in A Minor*, Bach; *How Firm a Foundation; Deep in Our Hearts*, Adler; *Voluntary and Trumpet Tune*, Boyce; *Toccata in C Major*, Schmidt.

DAVID HERMAN, St. Bede's Episcopal Church, Menlo Park, CA, June 17: *Allein Gott in her Höh' sei Ehr'*, Bach; *Nun bitten wir den Heiligen Geist*, Walther; *Komm, Heiliger Geist, Herre Gott*, Buxtehude; *Komm, Gott Schöpfer, Heiliger Geist; Fugue in E-flat*, Bach; *Au jô deu de pubelle; Joseph est bien Marié*, Balbastre; *Noël Poitevin; Noël de Saintonge*, Dandrieu; *Voluntary in B-flat*, Wesley; *Andante con moto; Fantaisie et Fugue*, Boëly; *Fantasy and Toccata*, Kaderavek; *Preludio "Sine Nomine,"* Howells; *Transports de joie (L'Ascension)*, Messiaen.

Calendar

This calendar runs from the 15th of the month of issue through the following month. **The deadline is the first of the preceding month** (Jan. 1 for Feb. issue). All events are assumed to be organ recitals unless otherwise indicated and are grouped within each date north-south and east-west. *=AGO chapter event, **=RCCO centre event, +=new organ dedication, ++=OHS event.

Information cannot be accepted unless it specifies **artist name, date, location,** and **hour** in writing. Multiple listings should be in chronological order; please do not send duplicate listings. THE DIAPASON regrets that it cannot assume responsibility for the accuracy of calendar entries.

UNITED STATES
East of the Mississippi

15 SEPTEMBER
Thomas Richner; Lyme Congregational, Lyme, NH 8 pm
Gillian Weir; Alice Tully Hall, New York, NY 6 pm

16 SEPTEMBER
Jean Travaglini; St Thomas, New York, NY 4 pm
Deborah Vowler, with flute & tenor; Christ & St Stephen's, New York, NY 4 pm
Michele Johns; St Peter's Episcopal, Tecumseh, MI 7 pm
Marilyn Keiser; St Paul's Episcopal, Milwaukee, WI 3 pm
+**David M. Gehrenbeck**; Illinois Wesleyan University, Bloomington, IL 8 pm

19 SEPTEMBER
Eileen Hunt; Methuen Music Hall, Methuen, MA 8:30 pm
Karel Paukert; Cleveland Museum, Cleveland, OH 12 noon

22 SEPTEMBER
Petr Eben; masterclass; Scarritt College, Nashville, TN 10–12 am

23 SEPTEMBER
Thomas R. Jones; St Thomas, New York, NY 4 pm
Susan Landale, Petr Eben; West End United Methodist, Nashville, TN 4 pm
Robert Glasgow; St Peter's Episcopal, Tecumseh, MI 7 pm

24 SEPTEMBER
Susan Landale, Petr Eben, lecture; Scarritt College, Nashville, TN

25 SEPTEMBER
David Craighead; Mercer University, Macon, GA 8 pm

26 SEPTEMBER
Ronald Stalford; Methuen Music Hall, Methuen, MA 8:30 pm
Karel Paukert; Cleveland Museum, Cleveland, OH 12 noon

28 SEPTEMBER
Susan Landale, Petr Eben; Salem College, Winston-Salem, NC 8:15 pm (also 29 September)

30 SEPTEMBER
Anne Wilson; St Paul's United Methodist, Ithaca, NY 4 pm
John Rose; Our Redeemer Lutheran, Seaford, NY 4 pm
Graham Farrell; St Thomas, New York, NY 4 pm
Cj Sambach; Church of the Most Blessed Sacrament, Franklin Lakes, NJ 7 pm
Charles H. Heaton; First Lutheran, Greensburg, PA 7:30 pm
Petr Eben; Cleveland Museum, Cleveland, OH 2 pm
Wolfgang Rübsam; First Congregational, Columbus, OH 8 pm
James Kibbie; St Peter's Episcopal, Tecumseh, MI 7 pm
John Eggert; First Lutheran Church, Glencoe, MN 8 pm
Skip Sempe, harpsichord, with baroque violin; Christ Church Cathedral, New Orleans, LA 4 pm

2 OCTOBER
Music of Gardiner, Gibbons, Barnard; St Thomas, New York, NY 5:30 pm
David Higgs; St Mary's Episcopal, Kinston, NC 8 pm
Gillian Weir; Christ Church Episcopal, Pensacola, FL 7:30 pm
John Weaver; Univ of Louisville, Louisville, KY 8 pm

3 OCTOBER
Eileen Guenther; Methuen Music Hall, Methuen, MA 8:30 pm
Music of Lassus; St Thomas, New York, NY 12:10 pm

6 OCTOBER
***John Rose**; St Patrick's Cathedral, Norwich, CT 8 pm

7 OCTOBER
Music of Purcell; Christ & St Stephen's, New York, NY 11 am
Music of Noble, Rose, Candlyn; St Thomas, New York, NY 4 pm
Judith Hancock; St Thomas, New York, NY 5:15 pm
Simon Preston; First Presbyterian, Germantown, Philadelphia, PA 4:30 pm
Marilyn Keiser; First United Methodist, Brevard, NC 3 pm
Michael Corzine; Christ United Methodist, Ft Lauderdale, FL 4 pm
Karel Paukert; Cleveland Museum, Cleveland, OH 2 pm
Robert Glasgow; Westminster Presbyterian, Dayton, OH 4 pm
James Kibbie; Jehovah Lutheran Church, St Paul, MN 4 pm
Cathedral Choir Concert; Christ Church Cathedral, New Orleans, LA 4 pm

8 OCTOBER
***Robert Glasgow**, workshop; Westminster Presbyterian, Dayton, OH 10 am

9 OCTOBER
Music of Howells, Rose, Harris; St Thomas, New York, NY 5:30 pm
Wendy Young, harpsichord, with countertenor; Christ & St Stephen's, New York, NY 8 pm

10 OCTOBER
Music of Byrd; St Thomas, New York, NY 12:10 pm
Simon Preston, with orchestra; Performing Arts Center, Milwaukee, WI

11 OCTOBER
David Higgs; St Paul's Chapel, New York, NY 12 noon

12 OCTOBER
***Karel Paukert**; Community Church, Manhasset, NY 8 pm
Marilyn Keiser; Illinois Wesleyan Univ, Bloomington, IL 8 pm

13 OCTOBER
Atlanta Bach Choir; Druid Hills Presbyterian, Atlanta, GA 8 pm
Marilyn Keiser, workshop; Illinois Wesleyan Univ, Bloomington, IL

14 OCTOBER
Music of Byrd; St Thomas, New York, NY 4 pm
Richard L. Johnson; St Thomas, New York, NY 5:15 pm
Kenneth Grinnell; Westminster Presbyterian, Manchester, NH 7:30 pm
Susan Landale, Petr Eben, masterclass & recital; The United Methodist Church, Red Bank, NJ 4, 5:30 pm
+**Cj Sambach**; St John's Church, Hampton, VA 10 am, 7 pm
David Britton; Cleveland Museum, Cleveland, OH 2 pm
Byron L. Blackmore; Our Savior's Lutheran, La Crosse, WI 4 pm

15 OCTOBER
James Kibbie; Univ of Michigan, Ann Arbor, MI 8:30 pm

16 OCTOBER
Music of Tallis, Byrd; St Thomas, New York, NY 5:30 pm
J. Warren Hutton; Mercer Univ, Macon, GA 8 pm
Gillian Weir; Univ of Michigan, Ann Arbor, MI 8 pm

17 OCTOBER
Music of Howells; St Thomas, New York, NY 12:10 pm

19 OCTOBER
Martin Neary, choral workshops & recital; St John's Church, Tampa, FL (through 21 October)

20 OCTOBER
Roberta Gary; Wellesley College, Wellesley, MA 8 pm
Cj Sambach; First Presbyterian, Wolcott, NY 7 pm
Todd Wilson; Tinkling Spring Presbyterian, Fishersville, VA 7:30 pm (also 21 October, 4 pm)

21 OCTOBER
Music of Stanford, Wm. Smith; St Thomas, New York, NY 4 pm
Nevin McNulty; St Thomas, New York, NY 5:15 pm
Cj Sambach; The Federated Church, Ovid, NY 4 pm
+**Thomas Richner**; Congregational Church, Peace Dale, RI 4 pm
Jeffrey L. Brillhart; Bryn Mawr Presbyterian, Bryn Mawr, PA 4pm
James Moeser; First United Presbyterian, Erie, PA 4pm
David Craighead; Calvary Episcopal Church, Shadyside, PA 8 pm
Johannes Kraner; Cleveland Museum, Cleveland, OH 2 pm
***Robert Clark**, workshop; First Congregational, Columbus, OH 4 pm
+**Huw Lewis**; Lake Shore Presbyterian, St Clair Shores, MI 7 pm
+**Marianne Webb**; Our Lady of Mt Carmel, Herrin, IL 4 pm
Kathryn Schenk, harpsichord; Concordia College, St Paul, MN 3:30 pm

22 OCTOBER
Martin Neary, masterclass; First Congregational, Watertown, CT 7:30 pm
Robert Clark; Ohio Wesleyan Univ, Delaware, OH 8:15 pm

23 OCTOBER
Martin Neary; First Congregational, Watertown, CT 7:30 pm
Music of Wood, Wm. Smith; St Thomas, New York, NY 5:30 pm

24 OCTOBER
Music of Tallis; St Thomas, New York, NY 12:10 pm
Charles H. Heaton; DePauw University, Greencastle, IN 7:30 pm

26 OCTOBER
Gillian Weir; St Paul's Episcopal, Flint, MI 8:30 pm (also 27 October, 8:30 pm)

28 OCTOBER
Roberta Gary; First Congregational, Westfield, MA 4 pm
South Church Choral Society; South Congregational–First Baptist, New Britain, CT 7:30 pm
Robert Stigall; St Thomas, New York, NY 5:15 pm
Music of Purcell, Ayleward, Bach; St Thomas, New York, NY 4 pm
Kenneth Grinnell; Bethany Covenant Church, Bedford, NH
+**Cj Sambach**; Grace United Methodist, Aberdeen, MD 9:30 am, 4:30 pm
Carlene Neihart; Temple Sinai, Pittsburgh, PA 3:30 pm
Karel Paukert; Cleveland Museum, Cleveland, OH 2 pm
Martin Neary; Central Reformed Church, Grand Rapids, MI

29 OCTOBER
Huw Lewis, workshop on children's choirs; St John's Episcopal, Detroit, MI 7 pm

30 OCTOBER
Anne Wilson; Cathedral of the Incarnation, Garden City, NY 8 pm
Music of Bach & Handel; St Thomas, New York, NY 7:30 pm

31 OCTOBER
Plainsong; St Thomas, New York, NY 12:10 pm

UNITED STATES
West of the Mississippi

16 SEPTEMBER
Carlene Neihart; Colonial Presbyterian, Kansas City, MO 3 pm

23 SEPTEMBER
David Spicer; First Presbyterian, Lincoln, NE 7 pm

27 SEPTEMBER
Catharine Crozier, University of Nebraska, Lincoln, NE 8 pm

28 SEPTEMBER
Catharine Crozier, lecture; University of Nebraska, Lincoln, NE (also 29 September)
Thomas Richner; Assembly Hall & Tabernacle, Salt Lake City, UT 8 pm
David Rothe; St John's Catholic, Chico, CA 8:15 pm

29 SEPTEMBER
Thomas Richner, masterclass; Brigham Young Univ, Provo, UT 10 am

30 SEPTEMBER
Frederick Swann; First Presbyterian, Bakersfield, CA 6 pm

3 OCTOBER
Thomas Richner; Ricks College, Rexburgh, ID 8 pm

7 OCTOBER
Gillian Weir; Plymouth Congregational, Minneapolis, MN 7 pm
Todd Wilson; Second Presbyterian, Little Rock, AR 3 pm
Thomas Richner; Trinity Episcopal, San Francisco, CA 4 pm

9 OCTOBER
Todd Wilson; St John's Abbey, Collegeville, MN 8 pm

12 OCTOBER
Gillian Weir; UCLA, Los Angeles, CA 8:30 pm
Susan Landale, Petr Eben; The Crystal Cathedral, Garden Grove, CA 8 pm

14 OCTOBER
Gillian Weir; Univ of Texas, Austin, TX 1:30 pm, 4 pm
Robert Noehren; Memorial Chapel, Stanford Univ, Stanford, CA 2:30 pm

15 OCTOBER
***Larry Smith**; Village Presbyterian, Prairie Village, KS 8 pm

20 OCTOBER
Pacific Chorale; Santa Ana H.S., Santa Ana, CA 8:30 pm

21 OCTOBER
Music of Hassler, Albright; First Presbyterian, Lincoln, NE 7 pm
***Marilyn Mason**; La Jolla Presbyterian, La Jolla, CA 4 pm

26 OCTOBER
Diane Bish; First Congregational, Los Angeles, CA 8 pm

28 OCTOBER
David Higgs; Tyler Street United Methodist, Dallas, TX 4 pm

INTERNATIONAL

20 SEPTEMBER
Gillian Weir; Gardekirche, Vienna, Austria 7:30 pm

22 SEPTEMBER
Gillian Weir; St James', Muswell Hill, London, England 7:30 pm

26 SEPTEMBER
Gillian Weir; Hexham Abbey Festival, Northumberland, England 8 pm

28 SEPTEMBER
Gillian Weir, with orchestra; Hexham Abbey Festival, Northumberland, England 7:30 pm

30 SEPTEMBER
Roger Fisher; All SS Cathedral, Edmonton, Alberta 3 pm

9 OCTOBER
Gillian Weir; St Andrew's Presbyterian, Toronto, Ontario 8 pm

19 OCTOBER
Gillian Weir; Altrincham Parish Church, England 8 pm

22 OCTOBER
Gillian Weir, St Sernin, Toulouse, France 9 pm

26 OCTOBER
David Craighead; Christ Church, Calgary, Alberta 8 pm

29 OCTOBER
Gillian Weir, with orchestra; Royal Festival Hall, London, England 7:30 pm

31 OCTOBER
Gillian Weir; Birmingham Town Hall, England 1 pm

New Organ Music

by Leon Nelson

***Free Accompaniments and Descants to Twelve Familiar Hymns for Organ*, Hal H. Hopson. H. W. Gray Publications, GB 650, $5.95 (E–M).**

Those involved with the never-ending task of church music will appreciate this fresh array of hymn introductions and accompaniments. Hopson has provided some very creative introductions and then has included a verse of the hymn for later reharmonization with a descant for voice or instrument. I would like to see other volumes like this by Hopson.

***Organ Music of John Ireland*, edited by Robert Gower. Novello (Theodore Presser Company, sole selling agent), 01 0183 04, $7.50 (M–D).**

John Ireland's life centered around the organ to a far greater extent than one might imagine from the small output of music written for it. This collection, carefully edited by Gower, has some helpful registration notes for each piece. Titles include, *Sursum Corda, Alla Marcia, Elegiac Romance, Intrada, Villanella, Menuetto, The Holy Boy, Meditation*, and *Capriccio*. Here is another collector's item of note.

***Wedding Music*, compiled, edited, and arranged by David N. Johnson. Books III and IV, Nos. 11-9525, 11-9526, Aubsburg Publishing House, $6.50 each (E).**

As is the case with music for a funeral, it is sometimes difficult to decide what is appropriate music for a wedding as there is so little specifically labeled for either category.

Here are two more editions that provide a variety of shorter, well-chosen pieces. There are several original settings and arrangements also included by Johnson. These volumes are highly recommended for your wedding music file or for general use. Both volumes contain optional solo instrumental parts for B-flat trumpet and C instrument.

***Fantasia for Organ*, John Weaver. Boosey and Hawkes, $5.50 (D).**

This is an exciting one-movement work in four connected sections: *Allegro, Scherzo, Adagio*, and *Finale*. It is noted in the preface that the composer wrote the work with a small instrument in mind, so the very basic colors found on nearly any two-manual organ can be exploited. This is a masterful work well worth learning.

***Five Short Pieces for Organ*, Adrian Self. Novello (Theodore Presser Company, sole selling agent), No. 01 0187 07, $3.75 (E+–M).**

Self has given us a treasure of five pieces–*Sarabande, Trio, Scherzo, Elegy*, and *Postlude*–all of which are written in a refreshing, contemporary style that should be of real value to anyone seeking new material for the organ. Total duration is about 10 minutes.

CLASSIFIED ADVERTISING

CLASSIFIED ADVERTISING

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PUBLICATIONS/ RECORDINGS

Priory organ series: Bath Abbey–Dudley Holroyd. Weitz–Fanfare + Gothic March, Parry–Fantasia and Fugue, Rheinberger–Sonata #3, Dupre–Cortege et Litanie, and others. Huddersfield Town Hall (Vol. 2)–Jonathan Bielby. Guilmant, Dubois, Hollins, Lemare, Whitlock, and Lefebure–Wely. $9.95 each + $1.75 post per order: Ben Johnston Record Imports, 53 Page Rd., Litchfield, NH 03051. Visa + MasterCard.

The first recording of organs by 19th century organbuilder, John George Pfeffer (1823–1910) of St. Louis, has been released. The two-record album "A Pfeffer Odyssey," features four organs built between 1860 and 1879. Organists heard on the recording are Rosalind Mohnsen and Earl Miller. Record Nr. OHS-200. $16.00 (OHS members: $13.00), includes shipping. Organ Historical Society, Box 26811, Richmond, VA 23261.

"The organs of the Divine Word Seminary." Techny, Illinois. Leon Nelson, organist. Works by Campra, Lemmens, Walton, Lenel, others. Stereo LP. $7.00, postpaid. Collector's item. Nelson, P.O. Box 380, Deerfield, IL 60015.

Reprint of historic organ brochure of one-manual organs built by Marshall & Odenbrett of Ripon, Wisconsin, 19th Century. Send SASE and 25¢ in stamps or coin to: Susan Friesen, Editor, The Stopt Diapason, 2139 Hassell Rd., Hoffman Estates, IL 60195.

A complete listing of all available back-numbers of THE DIAPASON is now available. Many from the 1930s on, and some older issues may also be obtained for your personal or library collection. Send SASE to: The Organ Historical Society, Box 26811, Richmond, VA 23261.

PUBLICATIONS/ RECORDINGS

The Organ Historical Society is offering a 16-page catalog of publications, recordings, and other items, many of which are produced by the OHS. The catalog also includes many hard-to-find popular books, recordings and tapes from other sources. Send 20¢ stamp to: OHS, Box 26811, Richmond, VA 23261.

The Organ Literature Foundation, world's largest supplier of organ books and recordings, offers a catalogue listing 1,100 plus items, at $1.00 or 4 international reply coupons (refundable with first order). Write to: The Organ Literature Foundation, 45 Norfolk Rd., Braintree, MA 02184.

HARPSICHORDS

Small, medium or large harpsichords, spinets and clavichords after various historic schools. Built to your requirements or choose from already completed instruments. Brochure available. Paul Y. Irvin, Instrument Maker, 221 Glenview Rd., Glenview, IL 60025. (312) 998-9829.

Harpsichords by Knight Vernon. Authentic replicas of historic instruments, carefully made and elegantly decorated. 525 White Pigeon St., Constantine, MI 49042.

Completed kit harpsichord: single, 8′ 8′ 4′, birch finish, spruce soundboard. $1,500/best offer. 8335 Camino Sur, Cucamonga, CA 91730. 714/982-5295.

Harpsichords, pedal harpsichords, clavichords custom made. Jan H. Albarda, 14 Princess St., Elora, Ont. Canada NOB 1SO.

HARPSICHORDS

Harpsichords, Clavichords, Fortepianos. Custom instruments and kits. Write for free brochure. Zuckermann Harpsichords Inc., Box 121-D, Stonington, CT 06378.

Sperrhake harpsichords and clavichords. Excellent, dependable, beautiful. Robert S. Taylor, 8710 Garfield St., Bethesda, MD 20034.

Harpsichord owners: A full line of audio and visual chromatic tuners is now available to help you with your tuning requirements. For more information write: Peterson Electro-Musical Products, Dept. 20, Worth, IL 60482.

Yves A. Feder Harpsichords, custom instruments and reconditioning work. Authorized Agent Zuckermann kits sold at factory direct prices. Assistance to kit builders. North Chestnut Hill, Killingworth, CT 06417.

Harpsichords by Eric Herz: singles, doubles, and clavichords, after 18th-century prototypes. Rich and full in sound, extremely stable and trouble-free. Our German Single (8′, 8′, buffstop) at $4,950 is perhaps the most affordable top-quality instrument on the market: beautifully finished in cherry or walnut. Some harpsichords immediately available. Selected used instruments. For free catalogue and color brochure contact: Eric Herz Harpsichords, Dept. D., 12 Howard St., Cambridge, MA 02139. 617/868-6772.

PIANOFORTE

Brown and Allen square grand pianoforte. 150 years old. Excellent condition. Beautiful wood. Every note plays. $4,500 or best offer. Leon Nelson, P.O. Box 380, Deerfield, IL 60015. 312/367-5102.

PIPE ORGANS FOR SALE

1935 Moller 8 ranks, walnut console, dismantled. $3,500. R. D. Harman, 1955 B Ave., N.E., Cedar Rapids, IA 52402.

13-rank Reuter pipe organ with console built 1921, rebuilt 1960, still in use, price negotiable. Westminster Presbyterian Church, Ottawa, KS 66067. 913/242-1824.

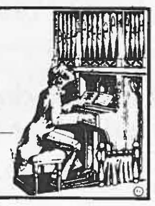
55-rank cathedral organ with historic pipework by Roosevelt and Bennet. Rebuilt by Schantz with all new mechanisms in 1952. Three-manual electropneumatic console. Buyer to disassemble and remove by July 31, 1985. $75,000 or highest bid. Extensive brochure sent upon request. Contact Neil Larson, Christ Church Cathedral, 421 S. 2nd St., Louisville, Ky 40202.

Morton 3-manual pipe organ; pipes, shades, blower, rectifier, percussions. Moller 3-manual; pipes, shades, rectifier, blower, chests. Pick up. Wilmer Henry, 120 S. 3rd St., Indiana, PA 15701. 412/465-8847.

Wicks 2m 2r organ with 7′ cabinet front & separate reservoir; blower & reservoir need repair. Asking $2,500. 201/473-4434 after 5 PM EST.

Large, 3-manual Kilgen, ca. 1928; 29 stops, electro-pneumatic action. Available immediately. Buyer to remove. Price negotiable. Bethesda Temple Church, 5574 Delmar Blvd., St. Louis, MO 63112. 314/576-6343, 314/361-6527.

1914 4-manual E. M. Skinner, rebuilt by Tellers 1958. Moller console, 1957. Playable. Contact Rev. Alan James or Nancy Lancaster, House of Hope Presbyterian Church, 797 Summit Ave., St. Paul, MN 55105. 612/227-6311.



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Display Classified minimum	15.00

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Address ______ Total Enclosed ______

City/State ______ Zip ______ Date Sent ______

CLASSIFIED ADVERTISING

Classified Advertising Rates will be found on page 17

PIPE ORGANS FOR SALE

1972 tracker organ, 1-manual, 4 ranks, $8,000. For further information: Brother Mark Ligett, 333 East Paulding Rd., Ft. Wayne, IN 46816.

Flentrop organ kit; not assembled; single key-board tracker organ; three ranks of metal pipes, one rank of wooden pipes; provision for foot pedals; missing main chest; $3,500 or will trade for unrestored automatic piano of comparable value. 201/438-0399.

3-manual 30-rank Estey pipe organ built in 1924; two large blowers, motors, chest, reservoir, full 32-note pedalboard, solid oak console with 36 stops and 20 couplers. Playing when removed, available immediately, $12,500 or best offer. Send self-addressed stamped envelope for specs. Write R. E. Collier, 10509 East 65th St., Kansas City, MO 64133.

4-manual 1927 Casavant pipe organ, 112 ranks, 3 sets of 32's. Professionally removed, and in storage. John D. Lyon, 40141 Eight Mile Rd., Northville, MI 48167.

Kimball organ, 1923. 2-manual, 11 stops. (3 16's) Good condition. In storage. Contact: Morel & Associates, 4221 Steele St., Denver, CO 80216. 303/355-3852.

Lyon & Healy tracker, c 1910? 2-manual, 7 stops. Excellent condition. Space requirements: 9' x 9' x 16' high. Playable. Contact: Morel & Associates, 4221 Steele St., Denver, CO 80216. 303/355-3852.

Aeolian player organ c. 1930; 23 ranks with player attachment. Pipes in good shape but organ not playing at present. St. Monica's Monastery, P.O Box A, Oconomowoc, WI 53066.

1962 19-stop 25-rank Schlicker, self-con-tained on movable platform. Manuals tracker; pedal electro-pneumatic. Excellent condition; like new; little used. Best offer. Prof. D. R. M. Paterson, University Organist, Dept. of Music, Lincoln Hall, Cornell University, Ithaca, NY 14853. 607/256-3531 or message at 607/256-4097.

60 year old O'Dell Pipe Organ; 16 ranks, 18 stops. 914/255-0944 anytime.

Kimball portable/residence organ 6-stop, in-cluding 8' TC trumpet. Opus 4020, ca. 1900. Measures 77" w x 75" d (incl. console) by 91" h. Pneumatic action w/ feeders. Free-reed pedal stop w/ qualifying tubes. Flat pedalboard. Currently undergoing restoration. Additional custom work to customer's specification will be considered. For additional information contact: Schneider Pipe Organs, Inc., P.O. Box 37, Kenney, IL 61749, or phone 217/944-2454 or 217/668-2412.

2-manual, 9-rank Casavant organ elect. pneum. restored and refinished, new pipes, new electric action, solid oak case and console, classically voiced, 10 years warranty. Contact Koppejan Pipe Organs, 48223 Yale Rd., E. Chilliwack, B.C., Canada V2P 6H4. 604/792-1623.

2-manual Delaware organ, 1971, 6 ranks, unenclosed with contemporary specifications. Excellent condition. Reasonable asking price. Sts. Joseph & Aidan Episcopal Church, 2452 W. Prairie St., Blue Island, IL 60406. 312/371-0540.

Positive and portative organs. We make in-struments in the Baroque and Medieval traditions to your specification. For further information, please write: Paul F. Martin Organs, P.O. Box 6, Mansfield, Ontario, Canada, L0N 1M0.

5 ranks, 2 manuals complete with blower. Built 1914, rebuilt by Wicks in 1951; 3 ranks, some damaged, in boxes. Available in Nov. 1984. Best offer. Moravian Church, 202 Main St., Hope, IN 47246. Phone 812/546-4641 A.M. only.

4-rank pipe organ self-contained, attached to Conn Classic organ. For details call Ernie Mathis, 619/745-0831.

54-rank Midmer-Losh in playable condition. Prefer to sell in entirety, or will consider individual stops. Buyer to remove. Send self-addressed envelope to: Fr. Joe Agostino, St. John the Baptist Church, 75 Lewis Ave., Brooklyn, NY 11206.

3/24 Wicks, Los Angeles area. Can be seen and played by appointment. 1970 Tellers electric console, 6 general pistons and 6 each division. Includes 16' Open, Trumpet, Oboe, Chimes. Sold as unit only. Contact Coleman Pipe Organ, P.O. Box 3100, Gardena, CA 90247. 213/329-4934.

THEATRE ORGANS FOR SALE

1926 Robert Morton 2/4 with theatre-horse-shoe console. Good condition, compact, easy removal from storage. Perfect for residence. $2,850. 1132 Los Angeles Ave., Fillmore, CA 93015. 805/524-2697.

Prices reduced. Wurlitzers: 3/8 Opus 1591, Flute–Tuba–Diapason to 16', Violin–Celeste–Tibia–Vox to 8', 5 percussions, toy counter, $14,000; 2/5 Opus 1145, Flute 16', Trumpet–Tibia–Salicional–Vox to 8', 3 percussions, toy counter, $8,500; 2/4 complete $5,000. All organs complete and original. Extra goodies: Bennet Post Horn $1,200; French Horn $800; Barton lifts $500; Mills Nickoleon restored $2500. Delzer's, Box 1334, Bismarck, ND. 58502. 701/223-3225.

Schober Theatre Organ. AGO console, 2 man-uals, 32 stops, 6 couplers, ext. speaker. $2,000. James Snell, 64 Rossiter Rd., Rochester, NY 14607. 716/244-7446.

THEATRE ORGAN PARTS

2-M Wurlitzer horseshoe console with bench, pedalboard & music rack; presently ready to accept electronic circuitboards; asking $1,000. 4-M Austin keyboard assembly; asking $700. AGO spec. pedalboard; asking $450. All items in excellent condition. No reasonable offer refused. George N. Attison, 601 Kenmore Ave., Copiague, NY 11726.

Bennett 8' free reed clarinet, pitman chests, harp and other goodies for sale. For further information, send SASE to Schneider Pipe Organs, Inc., P.O. Box 37, Kenney, IL 61749.

THEATRE ORGAN PARTS

3-manual Bennett horseshoe theatre console, 1929. All tablets Reisner electric stop switches. For specification and further information, contact: Schneider Pipe Organs, Inc., Box 37, Kenney, IL 61749. 217/944-2454 or 217/668-2412.

REED ORGANS

Vocalion c. 1895: 2/10, 27-note pedal. Fully restored, new blower. Excellent chapel/residence instrument. 7' 10" high. $3,000. Removal/installation assistance negotiable. Lisa Compton, 10 Spring St., Taunton, MA 02780. 617/823-5576, 617/822-1622.

ELECTRONIC ORGANS FOR SALE

Allen TC-1 organ, 1962. One gyro speaker. Good condition; $1,495. Good Shepherd Lutheran Church, 3535 E. Kessler Blvd., Indianapolis, IN 46220. 317/251-5139.

Rodgers 660 D; 3 tone cabinets plus anti-phonal. Custom reeds, trackers touch, computer capture action. $23,000. 617/685-8242.

Allen digital computer organ, System 705, 2 years old. Two-manual organ with 6 amps and 8 speaker cabinets. Buying large 3-manual organ. Will ship anywhere. Sacrifice at $21,900. Contact W. R. Decker 616/243-3658.

Allen Digital computer organ model 120-3. Excellent condition. $6,000. Contact D. Fitzsimmons, 623 Harbaugh St., Sewickley, PA 15143. 412/741-7427.

Artisan organ, electric, about 20 years old. Beautiful Organ Supply console, 30 stops. Reisner mechanisms. In home in Chicago northern suburb. Must be seen and heard. Organist, Box 380, Deerfield, IL 60015. 312/367-5102.

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Classified Advertising Rates will be found on page 17

ELECTRONIC ORGANS FOR SALE

95 Allen, Conn, Baldwin and Hammond Church organs, 400 grands, $1000 and up. Victor, 300 NW 54th St., Miami, FL 33127. 305/751-7502.

MISCELLANEOUS FOR SALE

Custom Keyboard assemblies in antique styles; split sharps, nonstandard measurements. SASE to Keyboards, 50 Columbia St., Newark, NJ 07102.

Many excellent sets of pipes, some very old, also windchests, consoles, etc. Andover Organ Co., Inc., P.O. Box 36, Methuen, MA 01844.

Three-manual, 17-rank Aleolen Voltey organ complete. Ten-rank converted tubular pneumatic 2-manual Hill Green Lane organ complete. Class A Deagan Chimes with action (20 notes). Two-manual Kilgen console. Several manual chests of eight ranks and less. Many ranks of pipes including 2 16′ open diapason. Many other organ components. Reasonable prices. James E. Dunnavant, Route 9 Box 328, Athens, AL 35611. 205/232-5421.

Excellent 2M Austin console, 4′ Dulciana, 4′ Gedeckt. 904/575-2001.

Closing out leftovers. 75 Reisner chest magnets, $1.00 each; B. L. Rectifier, 20 amperes, $50.00; zinc string bass pipes 8′, 12 pipes; Salicional, Dulciana, Viola, $25.00 per set, all three $60.00; top and rack boards for making unit chests, just install Reisner unit magnets, $20.00 per set, 2 for $35.00, 3 for $50.00, 4 for $60.00. T. H. Sheehan, 1306 E. 40th St., Savannah, GA 31404. 912/233-7540.

Reconditioned organ pipes: 4′ Rohrflute 1–12, 8′ Ped Bourdon 1–32, 61 piece Rohr Chimney Flute, 8′ Violin Diapason 1–5, 8′ Violin Diapason 16–17, 8′ Op. Diapason 13–16, 5″. Best offer. 602/526-0253.

20 ranks of Estey pipes. Send SASE for complete list. Also Spencer Orgoblo 5 HP 3-phase, 2800 cfm, 10″ static. 2463 N. Sherman Blvd., Milwaukee, WI 53210. 414/442-3127.

MISCELLANEOUS FOR SALE

4′ Regal, $200; 8′ TC Melodia, $85; pedal-keys $75; new offsets, EP, $50; 73-note unit chest, EP, new magnets, $165; 3-rk. unit chest, EP, never used, $650; 20 amp Orgelectra $65. Hoyer Organ Co., 908 Lawrence Ave., Lawrence, KS 66044. 913/842-3332.

Drawstop knobs, thumb pistons, bushes, nameplates and other organ parts made to your pattern in wood or ivory. Thos. Harrison & Sons (Est. 1830), Maxworthy Cross, North Petherwin, Launceston, PL 15 8 LZ. U.K.

Organ parts for sale: Chests, consoles, reser-voirs, pipework, and many miscellaneous components. Send SASE with your inquiry stating your specific needs. Sorry, no list. Sold as-is, or rebuilt to your specifications. Address MY-4, THE DIAPASON.

Korg AT-12 autochromatic tuner. New, im-proved tuner replaces WT-12 model. Play any note on your instrument and AT-12 instantly indicates the note and octave (by LED) and how many cents sharp or flat (by V-U meter) in seven octaves: C1 to B7. Generates four octaves C2 to B5 at two volumes. Calibrate tuner A=430Hz to 450 Hz. Quartz Crystal. Case, stand, AC adaptor, batteries, earphone. One lb. One year warranty. Introductory offer: $125 ppd. ($180 list). Song of the Sea, 47 West Street, Bar Harbor, ME 04609. 207/288-5653.

50 Allen, Baldwin, Wurlitzer church organs. 400 grand pianos. $990 up. Victor, 300 N.W. 54th St., Miami, FL 33127. 305/751-7502.

49-note Kohler–Liebich harp, mint condition, releathered, rebuilt, $950. 49-note harp, Austin, fair condition, $500. Wurlitzer Diaphone, 1–12, pipes and chest, $500. Delaware Organ Co., 252 Fillmore Ave., Tonawanda, NY 14150.

Pipe Organ Sales & Service, Inc. has a list of used organ parts; send postage paid envelope for a list. P.O Box 838, Lithonia, GA 30058.

Used, not abused, 2 man. Klann console med. oak, recessed panel; Gt. 8 stops, 6 couplers, Sw. 13 stops, 3 couplers; Ped. 9 stops, 2 un. coup.; 8 gen. thumb & toe, 3 rev. All works well. $2,000. F.O.B. C.F.I., 2512 Westridge Dr., Plano, TX 214/422-7337.

MISCELLANEOUS FOR SALE

One h.p. new quiet blowers with cabinet. $850. 600 cfm at 6″ playing pressure. Manufactured by White Organ Co., 2540 Webster Rd., Lansing, MI 48917. 517/323-3174.

SERVICES/ SUPPLIES

Flue voicing—tonal finishing—tonal rebuilds. Northeast only. 15 years experience with major builder. Andrew Huntington, 35 Cedar Land Court, Cromwell, CT 06416.

Benjamin K. Williams, Organ Pipemaker. Ex-cellent new pipework made with quality craftsmanship, dependable service. Scaling and voicing to your specifications. Post inquiries to: Box 7591, Charlotte, NC 28217.

Metal organ pipes. First class workmanship. Helmut Hempel Organ Pipes, 4144 W. 50th St., Cleveland, OH 44144.

Austin consoles rebuilt to your specifications, my shop or on location. Also bought and sold. Auchincloss Service, Box 5262, Poughkeepsie, NY 12602. 914/236-7154.

Used, revoiced, classic pipework. Various registers offered for one-half price of new pipework. Price includes cleaning and polishing old pipes & new tuning sleeves, etc. Customer's pipework re-voiced at 1/3 price of new pipework, including cleaning/polishing/sleeves. Samples available. Contact: Schneider Pipe Organs, Inc., P.O. Box 37, Kenney, IL 61749. 217/944-2454 or 668-2412.

The new 7-octave Peterson Chromatic Tuner, model 320, is now available from stock. Continuously variable Vernier control allows you to compensate for temperature or tune celeste ranks with ease. For more details: Peterson Electro-Musical Products, Dept. 31, Worth, IL 60482.

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SERVICES/ SUPPLIES

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Artisan oak or maple organ pipes at popular prices for limited time. Artisan Builders, 806 N.P. Av., Fargo, ND 58102. 701/293-8964.

Watkins & Watson Co. of America. Complete line of "Discus" organ blowers and humidifiers, high and low speed, efficient operation, silencing cabinets. Immediate delivery on most items. Free catalogue. 11040 W. Bluemound Rd., Wauwatosa, WI 53226. 414/771-8966.

Organ cable, 24 gauge copper, color-coded. PVC insulation and jacket. 32-conductor, 40¢/foot; 64-conductor, 75¢/foot; 100-conductor, 95¢/foot. 10% discount on orders of 500 feet. White Organ Co., 2540 Webster Rd., Lansing, MI 48917. 517/323-3174.

Electro-mechanical action. Features include color coded 60, 90, and 140 ohm coils, installation with one screw, and fulcrum pivot hinge. Price $2.00 each including 48 state shipment (does not include valve). Felt and leather valves sold separately in lots of 100 per size: 5/8″–$11/C, 3/4″–$12/C, 7/8″–$13/C, 1″–$14/C, 1 1/8″–$15/C. Tube of valve adhesive $5. Justin Matters, P.O. Box 1485, Rapid City, SD 57709.

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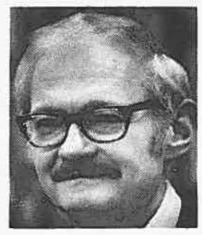
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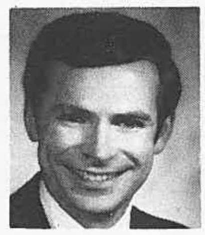
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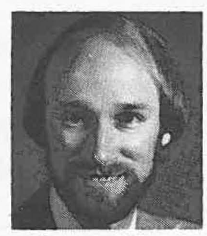
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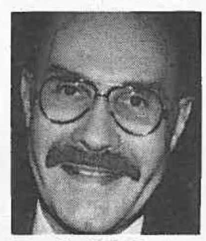
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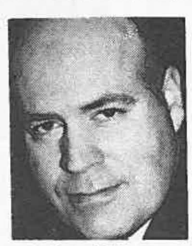
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Judith Hancock
Peter Hurford, March-May
Joan Lippincott
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James Moeser
George Ritchie
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Heinz Wunderlich