

On Words, Music and Voices¹

Robert Rollin

It is a commonsensical notion that the human voice produces the most intricate and subtle of all sounds. A primary reason often cited for this subtlety is the expressive quality of the voice and its connection with linguistic ability, but it is not merely the presence of linguistic and gestural ability in combination with musical that makes the human voice so complex a musical tool. It is rather that the same features which allow for speech are at least in part necessary for musical vocal production.² Vocal formants are among the most sophisticated of all formants because, over-laying the obvious timbral differences that exist in individual instrumental formants (as for example in comparing the high and low registers of the bassoon), there is present the myriad of vowel and consonant combinations which can color attack, sustain, and decay portions of a vocal sound.³ Recent instrumental experiments approach these formants, but are still so restricted in widespread application as to be considered aberrations. Furthermore, many of these experiments (e.g., brass multiphonics) add supplementary techniques of vocal production to the primary instrumental sound production. Considering the great flexibility and diversity available in vocal production it is indeed remarkable that so-called musical vocal sounds have been so restrictively delimited until recent times. No one has better expressed the frustration of the contemporary composer at this limitation than Harry Partch in his mammoth book, *Genesis of a Music*:

By mere control of the lips, mouth, tongue, palate, glottis, and diaphragm under emotional stimulus, the human voice is ready to express all the feelings and attitudes which the cumulative centuries have symbolized in words and poured into the dictionary--from joyful spite to tragic ecstasy, from ecstatic melancholy to hedonic fatuity, from furtive beatitude to boisterous grotesquerie, from portentous lechery to obdurate athanasia--prescience, felicity, urbanity, hauteur, surfeit, magniloquence, enravishment, execration, abnegation, anguish, riot, debauch, hope, joy, death, grief, effluent life, and a lot more.

¹ Earlier drafts of this article were presented at the American Society of University Composers National Conference, Seattle, Washington, April 24, 1982 and at the College Music Society National Meeting in Boston, October 8, 1982.

² See Peter B. Denes and Elliot N. Pinson, *The Speech Chain* (Garden City: Doubleday, 1973).

³ Arthur H. Benade, *Fundamentals of Musical Acoustics* (New York: Oxford University Press, 1976), pp. 366-9.

This bottle of cosmic vintage is the endowment of all of us. Do the freedom-fearing music schools of Europe and America train singers to give us even a little draught of these vocal potentialities? They concoct one special brand of their own, put it in an atomizer in the singers' throats, and send it in a sweet sickening stream over the proscenium and the kiloycles; it anoints the hair, it titillates the brows, it mizzles on the temples, and this wretchedest of intellectual infamies in the name of music--mark the term!--is called "musical tone."⁴

Today, over forty years after the above words were written, with the exception of such visionary author-teachers as Ralph Appelman, William Vennard, and Victor Alexander Fields, few singing teachers have strayed from the traditional approach.⁵

Turning from the physiological mechanics of vocal production we would do well to consider a conceptual question or two. Wilson Coker in his book on music aesthetics, gives surprisingly scant attention to vocal matters due to a preoccupation with a gestural theory of communication as indicated in the chapter on gesture and meaning.⁶ Ironically, we must turn to Arthur Danto, a philosopher dealing primarily with theories of visual art, to begin our exploration of these matters. In his essay entitled "Artworks and Real Things" Danto advances a more mimetic theory of art and in so doing touches upon the question of vocal utterance:

We may take (a minor) pleasure in a man imitating a crow-call of a sort we do not commonly take in crow-calls themselves, but this pleasure is rooted in cognition: we must know enough of crow-calls to know that these are what the man is imitating (and not, say, giraffe-calls), and must know that he and not crows is the provenance of the caws. One further condition for pleasure is this, that the man is imitating and not just an unfortunate crow-boy, afflicted from birth with a crowish pharynx. These crucial asymmetries need not be purchased at the price of decreased verisimilitude, and it is not unreasonable to insist upon a perfect acoustical indiscernibility between true and sham crow-calls, so that the uninformed in matters of art might--like an overhearing crow, in fact--be deluded and adopt attitudes appropriate to the reality of crows. The knowledge upon which artistic pleasure (in contrast with aesthetic pleasure) depends

⁴ Harry Partch, *Genesis of a New Music* (New York: Da Capo Press, 1974), pp. 52-3.

⁵ Ralph Appelman, *The Science of Vocal Pedagogy; Theory and Application* (Bloomington: Indiana University Press, 1967). William Vennard, *Singing, the Mechanism and the Technique* (New York: Carl Fischer, Inc., 1967), Victor Alexander Fields, *Foundations of the Singer's Art* (New York: Vantage Press, 1977).

⁶ Wilson Coker, *Music and Meaning* (New York: The Free Press, 1972), pp. 10-6. See also *Ibid.*, pp. 12-3, p. 60 and George Herbert Meade in *Mind, Self and Society* (Chicago: University of Chicago Press, 1934).

is thus external to and at right angles to the sounds themselves, since they concern the causes and conditions of the sounds and their relation to the real world. So the option is always available to the mimetic artist to rub away all differences between artworks and real things providing he is assured that the audience has a clear grasp of the distances.⁷

Susanne Langer in *Feeling and Form* perhaps best clarifies the relationship between words and music by stating that music swallows or assimilates words in varying degrees:

The range of musical forms is enormous, as the diversity of vital experiences is enormous, taking in flamboyant passions that can be presented only on a grand scale, and also the profound unspectacular emotive life that demands subtle, intricate, self-contained symbols, intensive and anything but vague, for its articulation. When music is strong and free it can 'swallow' and assimilate not only words, but even drama. Dramatic actions, like the 'poetic core,' become motivating centers of feeling, musical ideas.⁸

Langer thus skirts the question of intelligibility of the text from a linguistic standpoint by rightly pointing out that the words are admitted to the musical milieu as a means of generating musical expression and not as an end in themselves. The fact that some inferior texts have generated some of the highest forms of musical expression (e.g. some of the romantic song literature) does not preclude the possibility and indeed the importance of great musical settings of equally great poetic texts.

A musical setting of a text in reality subsumes three elements in the relationship between the words and the music. The first includes the cognitive meaning of the words and their interpretations. The second is the sonorous or phonemic quality of the spoken text and all the attendant analytic and synthetic possibilities available from phonetic manipulation. The third is the musical material chosen by the composer and his manipulation of this material in relation to or independent of the text.

Roman Jakobson, one of the most important linguists of this century, chose to open his *Six Lectures on Sound and Meaning* with a discussion of Poe's *The Raven*. The discussion centers upon the sonorous quality of the word "nevermore" used as part of the poet's seven syllable refrain. The presence of the final "r" at the end of the refrain is significant since it is the most producible consonant:

⁷ Arthur Danto, "Artworks and Real Things," contained in *Aesthetics Today*, Morris Philipson and Paul J. Gudel, editors (New York: New American Library of Meridian Books, 1980), pp. 323-4.

⁸ Susanne K. Langer, *Feeling and Form* (New York: Charles Scribner's Sons, 1953), pp. 158-9.

Poe himself tells us that it was the potential onomatopoetic quality of the sounds of the word "nevermore" which suggested to him its association with the croaking of a raven, and which was even the inspiration for the whole poem. Also, although the poet has no wish to weaken the sameness, the monotony, of the refrain, and while he repeatedly introduces it in the same way ("Quoth the raven, "Nevermore"'), it is nevertheless certain that variation of its phonic qualities, such as modulation of tone, stress and cadence, the detailed articulation of the sounds and of the groups of sounds, that such variations allow the emotive value of the word to be quantitatively and qualitatively varied in all kinds of ways.⁹

Words themselves have a sonorous quality which may be considered by composers (as well as poets) in conjunction with their cognitive meaning. Thus a text with less than transcendent intellectual connotations may be possessed of a fascinating sonorous content (or, to be sure, vice versa).

Many composers of the late 50's and 60's chose to minimize or even eliminate textual intelligibility in favor of sonorous quality sometimes coupled with a gestural theatric akin to the theatre of the absurd. This trend is a natural concomitant to admission of chance, but more significantly represents a fascination for vocal phones themselves, as equal elements in the composer's "bag of tricks" or even as primary structural elements.

To be sure, degree of textural intelligibility has always been a matter of concern to composers. In medieval and even renaissance times the stakes for religious composers were especially high with the "rewards" for excessive melismatic treatment including excommunication and various stronger forms of persuasion such as dismemberment, drawing and quartering, garroting, etc. In the modern era the prospects of an occasional tomato, some cat calls, jeers, whistles (in Europe) and even the prospect of notoriety makes experimentation far more palatable if not positively inviting.

Stockhausen, Berio, Gaburo, Shapey, Babbitt, Kagel, Ligeti, Schnebel, Nono, and Lutoslawski to name but a few, are composers who experimented with degrees of intelligibility and with phonemic texts in interesting ways. By the early 60's some of these composers eliminated linguistic texts entirely for complete preoccupation with phonetic sounds and notations. As one example among many, Ligeti's anti-opera *Aventures* (1962) for three singers (soprano, alto, and baritone), flute, horn, diverse percussion, piano (celesta), cello, and string bass provides an interesting musical case of the aforementioned gestural-aesthetic approach of Wilson Coker. Using a non-linguistic nonsense text notated with 119 symbols (various combinations of the international phonetic alphabet), Ligeti generates five different

⁹ Roman Jakobson, *Six Lectures on Sound and Meaning*, (Cambridge: M.I.T. Press, 1978), pp. 1-2.

49 **2** Allegro appassionato **50** **2** **51** **52** **53**
 (con tutta la forza - übertreibend, ausser sich)
 A tempo $\downarrow = 56-58$ Senza tempo, 3-5" $\downarrow = 56-58$ A tempo sempre non legato

S *fff (possibile)*
non legato
Zum Publikum!

A *fff*
non legato
Zum Publikum!

B *non legato*
 Inspiratorischer Laut (p)
 estatico
 (sempre *fff* possibile)
 so schnell wie möglich

Fl *staccatissimo*
fff

Cor *sfaccatissimo*
ff

Perc *Sehr kräftiger Schlag wie dem Trüppchen auf das Kissen!*
stff

Cemb *fff*
 klingen lassen

Pf *f*
staccatissimo

Vc *(arco)*
senza sord.
staccatissimo
ff

Cb *senza sord.*
staccatissimo
ff

* Bis zu weiteren Lautabgaben sind Vokale ad lib. zu singen, und zwar solche, die dem Sänger bei dem steten Lagewechsel am besten ansagen. Dabei ist darauf zu achten, dass womöglich die Vokale wechseln - so sollten für die tiefen Töne andere Vokale als für die hohen gewählt werden. Die einmal gewählten Vokale sind so klar wie möglich zu artikulieren. Die hohen und tiefen Töne sind getrennt, ohne Portamento zu singen, sie müssen einander aber möglichst dicht, ohne Zwischenpause (mit Ausnahme der nötigen kurzen Atempausen) folgen.
 ** S. Fußnote m auf Seite 15.

108 **4** Heftig, aufgeregt
 („Action dramatique“) - s. die Anmerkung zu „Conversation“, p. 9.
2 $d=40$
 * FÜR SICH: *p* *dolcissimo* *p* doch sehr intensiv, veräufelt *p* *dolcissimo* *p* doch intensiv (zum BARITON (Antwortend):) (fragend):

S
 (ohne Trichter) *n* *oh* *me!* *ge* *ci!* *hat noch ge?*

A
zum BARITON: p doch sehr intensiv *FÜR SICH: p* *dolcissimo* *ja ya* *li?* *er* *nei!* *dolcissimo*
zum ALIT: p doch sehr intensiv *zum SOPRAN (fragend): p* doch intensiv (versteht, naiv) *FÜR SICH: p* *dolcissimo* *zum PUBLIKUM: p* doch sehr intensiv (höhnisch-triumphierend)

B
zum ALIT: p doch sehr intensiv *FÜR SICH: p* *dolcissimo* *zum SOPRAN (fragend): p* doch intensiv (versteht, naiv) *FÜR SICH: p* *dolcissimo* *zum PUBLIKUM: p* doch sehr intensiv (höhnisch-triumphierend)
phäolisch (geringehütiges Lachen) *he! do 3r dera!* (höhnisch-triumphierend)

Fl
sff

Cor
sff

Perc:
sempre pppp *1), 2), 3), 4): wie in Takt 29, stets ganz in Hintergrund bleibend (kann hörbar)* *Sehr kontinuierlich (NB. Die einzelnen Geräusche sind für die ganze Dauer den angegebenen Notendauern gleichmäßig zu erzeugen.)* *sff*

Cemb
sff

Pf
hart *sff* *pizz. al pont*

Vc
sff

Cb
cresc....

* Bei den gesungenen Tönen bleiben die Sänger unbewegt, während die dazwischenliegenden Texte mit ausdrucksvoller Mimik vorgetragen werden.

** -> Schnarrendes pizz. (s. Takt 24)

Example 3: György Ligeti, *Aventures*, "Action dramatique," p. 26 (Note descending chromatic scale dispersed among other gestures.)

Copyright 1964. Used by permission of C.F. Peters Corporation.

moods or even narrative lines, if you will, by using a host of vocal inflections, dramatic gestures, and mimetic activities among the singers and instrumentalists. Since the three singers are the primary vehicle of quasi-linguistic activity Swedish musicologist Harald Kaufmann suggests multiplying the five moods (irony, sorrow, humor, anxiety and eroticism) by their planned appearances in the three singing parts (read characters), to result in a total of 15 primary pseudo-linguistic elements which are woven into the framework of theatric activity and musical form."¹⁰

The piece itself divides into nine sections based upon textural procedures, tempo (or lack of tempo), and depiction of the five moods. Only three of the movements employ all five moods. These are "Conversation," the third; "Allegro appassionato," the fifth; and "Action dramatique," the eighth. "Conversation" is for the three vocal soloists a cappella and adds to the interchange among the three singers raucous asides to the audience and soft private comments which can be read as a kind of stealthy soliloquy. The vocal parts employ short groups of pitched sounds, and many non-pitched whispers, murmurings, chattering, stammering, and sighings to produce a three-part counterpoint of utterance (Ex. 1). The "Allegro appassionato" employs mainly fortissimo voiced disjunct lines partially paralleled in the instrumental forces with rhythmically-distinct parts now heterophonic and other times independent. One of two brief soloistic interruptions or windows is shown in Example 2 after which the growing multi-voiced chaos resumes. "Action dramatique" is similar in texture to "Conversation," but is more agitated, and adds instrumental octave-displaced doublings and non-pitched percussion to the vocal tapestry. Here the theatricality of the other sections is abolished for motionless stiffness despite the gradually growing intensity (Ex. 3).

An interesting line of experimental development appears in America spreading from the University of Illinois in Urbana to the Center for Music Experiment at the University of California at San Diego. A notable feature of this line of inquiry is that professional singers themselves have begun to join composers in research for a means of establishing both generally acceptable nomenclature and a system of classification of the many new techniques that have developed since the 50's. Through this activity some new techniques have evolved as well. In their Recorded Lexicon of Extended Vocal Techniques and the written Index (San Diego, 1974) the Extended Vocal Techniques Ensemble of California divided the new sounds into the two main categories of monophonic and multiphonic vocal sonorities. Subsequently they published a supplement to the Index showing that acoustic research was insufficiently developed as yet to establish definitively whether or not some of those techniques originally listed as multiphonic were actually rapid alterations of a single sound source in the vocal tract. *An Introduction to Extended Vocal Techniques: Some Compositional Aspects and Performance Problems* by Deborah Kavasch¹¹, a

¹⁰ Harald Kaufman, "Ein Fall absurder Musik - Ligetis 'Aventures et Nouvelles Aventures,'" in *Spurlinien*, Vienna, 1969, pp. 130-158.

composer-vocalist member of the ensemble, presents the promising approach of a more elastic typology coupled with clear expository explanation of recorded examples. Five different vocal techniques are described and exemplified: 1) reinforced harmonics, 2) ululation, 3) vocal fry, 4) chant, and 5) complex multiphonics.

Edwin London's *Psalm of These Days II* (1976-77) was written for and premiered by the Extended Vocal Techniques Ensemble. The text is from *Psalm 131* and reads as follows:

Lord, my heart is not haughty
 Nor mine eyes lofty;
 Neither do I exercise myself in great matters
 Or in things too high for me.
 Surely I have behaved and quieted myself
 As a child that is weaned of his mother;
 My soul is even as a weaned child.
 Let Israel hope in the Lord from henceforth and forever.

Other than the obvious transformed end products of translation, the original biblical text is unaltered and the characteristic repetition of idea termed by Hebraic scholars as "tikbolet" is left untouched. Indeed, the composer uses this repetition to his advantage to portray what might be termed a mechanistic aspect of modern religious faith.

Imagine a very sophisticated computer processing information requisite to the attainment of religious faith. As syllables and phonemes slowly progress, the computer makes passes over myriad meanings and reacts thereto. The transformations are analytic, with just a hint of the stilted manner, in search of significance. Imitate the manner of present day computer vocalism (Dodge, Vortrax, etc.). Intonation should (ha-ha) be crystalline and pure (the HI-LOS). When EVT catalogue techniques are used, analytic control is the watchword. Deliberate use of cheeks, lips, even eyes. The fixed notation is an analogue of this control.¹²

The use of this psalm text with its recapitulatory quality often serves to provide the composer with at least two chances for each tone painting element, employing his new techniques in a setting that preserves word order and keeps melismatic treatment within the bounds of linguistic intelligibility.

The notation is, wherever possible, traditional without recourse to the phonetic alphabet for the text. Normal spelling is laid out vertically prior to the onset of each word in the score, itself, where a free spelling is employed to aid in pronunciation (see Ex. 4). Referring to certain starred places in the score the composer

¹¹ This journal, vol III/1.pp.11-28.

¹² From the preface to the score (New York: C. F. Peters, 1986.).

recommends the following:

Fixed notation aside, the composer invites the performers to join in the compositional process by adding (in a judicious and temperate manner) percussion parts ad libitum. Suggested instruments (mostly of indeterminate pitch) include an assortment of baby rattles, teething rings, maracas, a kalimba, and the percussive use of hands, feet, cheeks, and other body surfaces.¹³

The piece contains many examples of the five aforementioned types of extended vocal techniques. Indeed, the opening includes reinforced harmonics, cross-register ululation or shakes, ingressive and egressive breath control, multiphonic chant and the percussive theatrical element. Control of sustained pitches through use of a rhythmic notation showing variation in breathing and placement of the hand over the mouth like a plunger mute are notable as well (see Examples 4 and 5).

Tone painting is very effectively used in the piece. The method is conventional and akin to renaissance procedures, though the techniques employed are of the novel extended vocal variety. Most notable cases are on the words "lofty," "exercise," "great," "high," "weaned," and "forever." The word "lofty" for example is musically presented with the highest register in each voice thus far in the work, and a rather wide textural spacing highlighted by cross-registral ululation.

The image shows a musical score for four voices: Soprano, Alto, Tenor, and Bass. Each voice part is written on a five-line staff. The lyrics are: Soprano: "- EYE", Alto: "- EYE", Tenor: "- EYE", Bass: "- HE - AH - EYE". The score features various musical notations including notes, rests, and dynamic markings such as *mp* and *f*. There are also some handwritten annotations and symbols like stars and arrows. The score is divided into measures by vertical bar lines.

Example 4: Edwin London, Psalm of These Days II, chest-controlled breath accents mm. 5-7.
Copyright 1986, Used by permission of C.F. Peters Corporation.

¹³ Ibid.

(Multiphonic chant)

THESE - DU - EYE A - EYE DU - EYE DU - EYE DU - EYE

(Multiphonic chant)

THESE DU - AH - EYE

(Multiphonic chant)

EYE THESE DU - AH - EYE DU - AH - EYE DU - AH - EYE

(Multiphonic chant)

THESE DU - AH - EYE

* + - = use hand like plunger mute for close (+) and open (o). Utilize open and close mouth variation as well.

Example 5: Edwin London, Psalm of These Days II, multiphonic chant and hand-muting technique, mm. 20-22.

Copyright 1986. Used by permission of C.F. Peters Corporation.

Madrigals (1978) by William Brooks is a four-movement work for a cappella voices. Brooks, who like London has had affiliations with the University of Illinois and the University of California at San Diego, composed the work for the Extended Vocal Techniques Ensemble. He also cites singer-composers Joan LaBarbara and Meredith Monk as important influences.¹⁴ Brooks, himself, is a virtuoso tenor who has appeared in recordings of renaissance and new music. The first madrigal is based upon the "Silver Swan" of Gibbons; the fourth upon "Nellie Was a Lady" of Steven Foster. The inner two movements contain sound material based on phonemic analysis of the outer movements. Perhaps the most fascinating technique employed in the work is that of reinforced harmonics used extensively in the first and third madrigals. Particularly interesting from a coloristic standpoint is the first madrigal in which the overlapping latticework of these reinforced harmonics in the four voices produces a texture varying from two to eight parts. The diatonic harmonic style is so transformed by this coloristic procedure that it is heard in an entirely new context. This is illustrated in the opening page of the score (example 6.)

¹⁴ From a short essay enclosed in a letter to the author and later included as liner notes to the Wergo recording by the British group The Electric Phoenix. The work is published by Schott.

The image displays a musical score for the madrigal "The Silver Swan" by William Brooks, specifically focusing on reinforced harmonics in measures 1 through 5. The score is arranged in four staves, labeled S (Soprano), A (Alto), T (Tenor), and B (Bass). Each staff shows the vocal line with lyrics and the piano accompaniment. Reinforced harmonics are indicated by brackets and notes above the vocal lines. Measure 4 is particularly complex, featuring a six-part doubling of notes. The lyrics include "s(l)", "a)", "n", "v(e)", "h(u)", and "a)-n". The score includes various musical notations such as dynamics (mf, mp, p), articulation marks, and time signatures (2/4, 5/4).

Example 6: William Brooks, *Madrigals*, No. 1, "The Silver Swan," reinforced harmonics, mm. 1-5.

Copyright (1989) by Smith Publications, 2617, Gwyndale Ave. Baltimore, MD 21207 USA. Used by permission.

Where two pitches are indicated in a single part, the lower pitch is sung and the upper pitch is the partial that arises from controlling the resonators in the vocal cavities. Measure 4 contains a six-part doubled simultaneity (B^b_2 , F_4 , B^b_3 doubled and B^b_4 doubled). Two of the partials are shifted upward to create tone-color fluctuation. The beauty of this procedure combined with consonant colorings in the text, nasalization, constriction and other vocal techniques creates a wonderful tapestry of shifting sounds. It is interesting that entrances are frequently dovetailed and that all four performers rarely articulate a fundamental at the same time. The result is a counterpoint of tone color which nonetheless preserves the textual intelligibility surprisingly well.

The second madrigal is subtitled "Bad Bottle Blues" and is notated with approximate pitch since it is a study of egressive and ingressive consonant sound with a more than accidental relationship with black American blues style. Brooks requests in his notes to the score that unisons, octaves, and extended tonal centers be avoided but allows that isolated tonal sonorities will support and add richness to performance.

The emphasis on consonants results inevitably in a short staccato delivery. At the outset this is very pointillistic in style and is supported by complex cross rhythms and metric modulation (as shown in ex. 7). Each part is enclosed by two horizontal lines producing a grid against barlines graphically delimiting outer limits of the particular voice range. This grid applies to each type of vocal effect including hums and whistles. It is a relative notation since available pitch range must necessarily vary for each technique because of human vocal limitations.

Example 7: William Brooks, *Madrigals*, no.2 "Bad Bottle Blues," m. 1-5.

Copyright (1989) by Smith Publications, 2617, Gwyndale Ave. Baltimore, MD 21207 USA. Used by permission.

Brooks supplements the normal international Phonetic Association symbols with diacritical marks. Apostrophes (soprano and tenor text entries, mm. 1-2) require that the singers use pharyngeal air, and the double apostrophes (preceding the alto entry, m. 2) that the singer use mouth air. Horizontal arrows below phonetic symbols imply ingressive air if pointing to the left, and egressive air when pointing to the right only if the context is unclear or to cancel the ingressive direction (see alto, mm. 2-3). In the musical notation, crosses as noteheads signify unvoiced sounds (eg. bass, m. 3). Normal noteheads with vertical lines through them indicate a breathy delivery (eg. bass and alto on downbeat of m. 5) and a triangular notehead, a vocal fry (tenor, downbeat, m.3).

Amplification is required for *Madrigal No. 2* and the movement to and from the microphone and the grimaces produced in making some of the sounds are intended as a theatrical element. Various types of parentheses are used around phonetic symbols to indicate hand muting of sounds including full muting so that air escapes through the nose, spread fingers over mouth to create distortion (see tenor, m. 5, first articulation), and "wa-wa" effects created by back and forth moving from fully muted to open (and vice versa). Other symbols below the phonemic markings show linking of phonemes and coloration of sounds. For example, in the bass entrance (m. 2) the small curve (˘) indicates linkage where the first phoneme is subordinate to the second. The symbols (◦) and (◡) indicate unvoiced coloration and voiced colorations respectively (see for example soprano, m. 4). As the movement progresses the pointillism evolves to a kind of scat which in the last few pages approaches the effect of complex jazzy rhythms over a walking bass (see Ex. 8).

The image displays a musical score for four voices: Soprano (S), Alto (A), Tenor (T), and Bass (B). Each staff contains four measures of music. The notation includes notes, rests, and various phonetic symbols. The phonetic symbols are arranged in lines below the musical notation. The Soprano staff has the following phonetic markings: *paʃukami*, *i' kɔɣmka*, *paʃukamadʒinabalʃ*, *ɔ*, *dɪn*, *dəbʃ*, *i*, *baʃ*, *ɔ*, *mɔ*, *wi*. The Alto staff has: *ə*, *tʃ*, *k*, *t*, *la*, *la*, *B*, *tʃ*, *k*, *t*, *tʃ*, *k*. The Tenor staff has: *B*, *i*, *p*, *i*, *na*, *baʃ*, *ɔ*, *mɔ*, *ʃu*, *kə*, *la*, *ti*, *kə*, *dɪn*, *ɔ*, *baʃ*, *ɔ*, *dʒɪn*. The Bass staff has: *lɪm*, *lɪm*, *lɪm*, *lɪm*, *la*, *i*, *p*, *k*, *k*, *lɪm*, *lɪm*, *lɪm*, *lɪm*, *lɪm*, *lɪm*, *lɪm*, *lɪm*.

Example 8: William Brooks, *Madrigals*, no.2 "Bad bottle Blues," m. 46-49.

Copyright (1989) by Smith Publications, 2617, Gwyndale Ave. Baltimore, MD 21207 USA. Used by permission.

The third madrigal uses some of the extended-vocal techniques of the first, but instead of a diatonic treatment as in the first, the composer employs a twelve-tone row. It is entitled "Osangga," a corruption of the word "Hosanna." The piece is a process in which the opening twelve-tone texture of overlapping, sustained breathy sounds presented in irregular rhythm is overcome by one of faster, evenly-

moving reinforced harmonics over barely-audible sustained fundamentals. The second texture, first appearing in the tenor at measure 32, introduces tonal elements focussing upon adjacent lower partials for its reinforced harmonics. (See example 9.) Each pattern of reinforced harmonics is introduced in equal durations, with individual patterns varying from two to six sixteenths. An effect of polyrhythm or different speeds results when two or more patterns are present. These faster-moving tonal elements build to a climax and then subside in a short coda. Though there is no clear rendition of the single-word text, the process seems to move from disorder to order and could perhaps represent an analogue to the fulfillment attendant upon fervent prayer.

35

Example 9: William Brooks, *Madrigals*, no.3 "Osanna," first entrance of reinforced harmonics, mm.31-35.

Copyright (1989) by Smith Publications, 2617, Gwyndale Ave. Baltimore, MD 21207 USA. Used by permission.

Madrigals no.4 is entitled "Nellie was Lady" after the song by Stephen Foster. Example 10 shows how the sporadic presence of barbershop harmonies is constantly enlivened with extended-vocal techniques such as ingressive distorted speech (tenor, mm.28-30), wind sounds (soprano, alto, and bass, mm. 30-31) and gurgles, drips and other water sounds (tenor, mm. 34-36). Tone painting is more literal in *Madrigal 4* than the others as exemplified by specific musical references to "by de margin ob de water" and "Toll de bell." The use of black dialect affords additional possibilities of consonant experimentation yet lends a homespun quality to this, the most accessible of the four madrigals.

As by now is obvious, the work is an eclectic tour de force. Brooks has stated that the stylistically diverse madrigals are linked in pairs by specific vocal techniques and that he had definite reasons for inclusion of such diverse stylistic elements:

I also hoped . . . the movements would be linked at a deeper level, so that their coexistence would somehow seem appropriate, though for no obvious reason, it seems to me that, in general, things once thought to be separate have turned out actually to be interlinked, and that to deny this is to continue a pattern of uncritical intolerance that has on a global scale become actually dangerous. It also seems to me to be possible to affirm such interconnections in a way that is both intelligible and sophisticated; new music and new devices need not appeal to a few specialists only. Composition today (and not just of music) has come to entail learning how to frame differences harmoniously without necessarily 'resolving' them, and to do this in a way which neither panders to nor repudiates the people in which the differences are embodied.¹⁵

Requiem (1978) for four solo voices and prerecorded tape of eight voices (or live eight-part chamber chorus), by Deborah Kavasch, is a setting of the traditional Latin text using many of the extended vocal techniques referred to in her *Introduction to Extended Vocal Techniques* as well as traditional music phonation. Though all voices are amplified by individual microphones, no other electronic techniques are employed. The device of reinforced harmonics adding resonance to a simple unison passage and expanding to perfect-fifth and triad formations makes the opening movement especially unpretentious and effective. The low register multiphonic chant passages are particularly powerful as they are gradually increased in duration after being briefly introduced in measure four (see Ex. 11). The "Dies Irae" section also begins with a simple unison passage, but this time the composer requests ingressive sound production, one of the harshest of the new devices and most appropriate for tone-painting of judgement day and the earth's destruction. The "Libera Animas" section depicts deliverance of the faithful from the dark torments of hell to holy light by using traditional staccato phonation in a rapid tempo, beginning softly and growing gradually to forte as it remains chromatically-centered around the pitch f# (Ex. 12). Elsewhere in the piece, simple sonorities such as unisons and fifths are coloristically embellished through use of vocal fry, ululation, pitched and non-pitched whistles, and other complex sounds that mix pitch and noise elements. The *Requiem* is a compendium of extended vocal techniques, but remains successful as a piece of music by keeping its pitch language relatively simple and accessible.

¹⁵ Ibid.

REQUIEM

4

DEBORAH KAVASCH

TAPE *J=60* *mp* * Reinforce harmonic appropriate to each vowel. No vibrato.

mp *Minimal or no vibrato*

LIVE *J=60* *mp* * Reinforce harmonic appropriate to each vowel. No vibrato.

mp *Minimal or no vibrato*

RE-QUI-EM AE-TER-NA-ME-UM DE-UM E-SS-EN-TEM UN-UM DE-UM ET UN-UM DE-UM

RE-QUI-EM AE-TER-NA-ME-UM DE-UM E-SS-EN-TEM UN-UM DE-UM ET UN-UM DE-UM

Example 11: Deborah Kavasch, *Requiem*. opening, mm. 1-5.

Copyright 1985 by Editions Reimers AB, Stockholm., Sweden.

10

mp

sim.

LIBERA ANIMAS

LIBERA ANIMAS OR-DE-UM N-RO-UM LIBERA ANIMAS

LIBERA ANIMAS OR-DE-UM N-RO-UM LIBERA ANIMAS

LIBERA ANIMAS OR-DE-UM N-RO-UM LIBERA ANIMAS

Example 12: Deborah Kavach, *Requiem*. "Libera animas," mm. 10-14.

Copyright 1985 by Editions Reimers AB, Stockholm., Sweden.

Blind Men (1967), by Roger Reynolds is an extended single-movement work for 24-voice mixed chorus and small brass and percussion ensemble. Its text is derived from a short passage in Herman Melville's *Journal up the Straits, 1856-1857* concerning the author's observation of blind men in Cairo. Reynolds adds subsidiary words of his own to support textual meaning, for their phonemic qualities, and as a means of layering complex musical events at times sacrificing textual intelligibility for the broader musical flow.

The work is made up of 23 continuous sections which the composer delineates as comprising three separate types: five timed mixtures, seven measured sections connected by eleven links.¹⁶ Three different placements of the singers are used to facilitate spatial effects, cuing of successive events by chorus members and gestural theatrics. Notwithstanding chorus distributions, piano and percussion remain fixed (stage left and right respectively) as do brass (in front of the chorus). Timed mixtures are always sixty-second unmeasured, unconducted textures in which individual parts are submerged in the totality of the sound mass. TM2 serves as a good example since it illustrates phonemic treatment of text and the self-cuing by chorus members and instrumentalists (see Ex. 13). Vertical arrows are used to indicate cues. Reynolds states that tones should be about twelve seconds in duration for vocalists and ten to thirty seconds for the brass. The links are generally short, sustained events naturally limited in duration by such restrictions as human breath capability and decay of percussive sounds. Link nine, for example, connects two measured sections utilizing decaying of gong, tam-tam and women's voices (Ex. 14). The measured sections are complex and prolonged, using a mixture of metered and graphic notation. The first of such sections is a good example of this notational combination and has a conductor's metered reduction to assist in performance. It also contains graphic notation showing approximate pitch of primary and soloistic vocal lines in an unusual combination of language and musical notation (Ex. 15).

¹⁶ See Reynolds' preface to the score (New York: C. F. Peters, 1967.)

4 TM₂ (DURATION 60')

The musical score is a complex orchestration for a large ensemble. It features the following parts:

- Trombones:** 1 and 2
- Trumpets:** 1, 2, and 3
- Tuba**
- Drums**
- Percussion 1**
- Vocalists:** Soprano 1, Soprano 2, Soprano 3, Soprano 4, Soprano 5, Soprano 6, Alto 1, Tenor 1, Tenor 2, Tenor 3, Tenor 4, Tenor 5, Tenor 6, Bass 1, Bass 2, Bass 3, Bass 4, Bass 5, Bass 6.

The score is written in a complex, multi-measure format with many rests and dynamic markings. The notation is dense and includes various musical symbols such as notes, rests, and dynamic markings.

Example 13: Roger Reynolds, *Blind Men*, Timed Mixture 2, p.4.

Copyright 1967. Used by permission of C.F. Peters Corporation.

2 A

PNO
 TBN I
 TRP I
 PERC
 COND
 SOP
 ALTO
 TRN
 BASS

Slow, morose, but intensely sustained DURATION: 30''-40''

MUTE pp

wailing LIRISON CLUSTER

MULTITUDES

MULTITUDES

MULTITUDES

MULTITUDES

MULTITUDES

MULTITUDES

MULTITUDES

PRIMARY LINE IS INTONED BY ALL VOCALISTS IN SHADED AREAS. IT SHOULD DOMINATE THE SECTION SO THAT THE SOLISTIC LINES ARE SOMEWHAT OBSCURED, BUT WHEN THE APPROXIMATE PITCH RANGE OF THE PRIMARY LINE IS OBSERVED (E.G., PL3-4) THE SOLID ELEMENTS SOLISTIC LINES ARE ALL ASSIGNED BY THE CONDUCTOR. WILL OCCASIONALLY EMERGE CLEARLY.

VOCALISTS MAY USE THEIR FULL VOCAL RANGE AS SUGGESTED BY THE RELATIVE GRAPHIC REPRESENTATION.

EACH SOLIST SHOULD TRY TO EXPRESSIVELY CHARACTERIZE HIS PHRASE.

Example 15: Roger Reynolds, *Blind Men*, measured section A, p.2.

Copyright 1967. Used by permission of C.F. Peters Corporation.

The *Idea of Order at Key West* for soprano, flute, E \flat clarinet changing to B \flat bass clarinet, trumpet, viola and cello, by Robert Erickson, is a setting of the poem of the same name by Wallace Stevens. Because Steven's poem is long, cerebral, yet beautifully expressive and lyrical, and because the poem speaks of a feminine protagonist as a metaphor for human reaction to the sea, the frequent use of a simplified monotone recitation style is appropriate in tone. Erickson uses traditional notation in a sensitive, pliable setting in which a free ametric approach is most prevalent. The opening introduces the voice in a textless vocalise and with chromatic as well as intermittently - disjunct melodic treatment. The declamatory recitation style enters with the text and remains relatively conjunct except for intermittent moves into tone painting often supported in the instruments, as in the setting of the word "fluttering" supported by an accompanying clarinet line (see Exs. 16 and 17.)

The harmonic language is atonal, though the composer carefully allows it to fluctuate in conjunction with the text. For example, the last portion of the second stanza speaks of the metaphorical protagonist as having "stirred the grinding water and the gasping wind." Upon reaching the word "stirred" the harmony moves from relatively-consonant sounds (035) to a more astringent sonority (016) (see Ex. 18). The vocalise returns twice in the body of the work and twice at its conclusion as if commenting upon the text which, at these places, refers to singing, sounds, or the night. Use of the declamatory style, free rhythm, and sensitive tone painting preserves the magic as well as intelligibility of Steven's powerful poem.

The image shows a musical score for Example 16, spanning measures 33 to 36. The score is written for soprano and several instruments: flute (fl), E \flat clarinet (cl), trumpet (trp), viola (vln), and cello (cel). The tempo is marked as 'a tempo (72) rubato'. The vocal line begins with a vocalise and then transitions to recitation. The lyrics are 'SAC SANG' and 'BEYOND THE GEN-I-US OF THE'. The score includes various dynamic markings such as *F*, *MP*, *PP*, *P*, *FPP*, and *MF*. The instrumental parts provide accompaniment, with the clarinet and trumpet showing more active lines. The vocal line is marked with 'SAC SANG' and 'BEYOND THE GEN-I-US OF THE'.

Example 16: Robert Erickson, *The Idea of order at Key West*, from vocalise to recitation, mm.33-36.

whol-ly so-by FLUT-TER-ING ITS CIP-TY SLEEVES AND YET ITS MICH

41 42 43 44

FL

CL

TR

VLA

VCL

MP P MF FP P

FP (P) MP P

P < MP > P

Example 17: Robert Erickson, *The Idea of Order at Key West*, tone painting, mm.41-44. Copyright (1989) by Smith Publications, 2617, Gwyndale Ave. Baltimore, MD 21207 USA. Used by permission.

SANG WAS UT-TERED WORD BY WORD IT MAY BE THAT IN ALL HER PHRASES STIRRED THE

59 60 61 62 63 64

FL

CL

TR

VLA

VCL

MP

MP

MPP

(035)

(016)

Example 18: Robert Erickson, *The Idea of Order at Key West*, harmonic tone painting, mm.59-64.

Copyright (1989) by Smith Publications, 2617, Gwyndale Ave. Baltimore, MD 21207 USA. Used by permission.

Gloria Nova (1975) for unaccompanied chorus (SATB), by Robert Rollin, is a setting of the poem *Pied Beauty* by Gerard Manley Hopkins. The short poem praises all things that are beautiful, not in the perfect classic sense, but rather in the sense of uniqueness and individuality and presents two-shaded skies, spotted cows, and rose moles on the skin of trout as illustrations. The title of the setting is derived from the first and last lines of the poem: "Glory be to God for Dappled things" and "He fathers-forth whose beauty is past change: Praise him." The harmonic language is fully chromatic and dissonant reflecting the message of the poem.

In measure 5-11 the text is "skies of couple color as a brinded cow." Here the textural simile is depicted in the music by close juxtaposition of the words "cow," "sky" and "brinded" in a syncopated quasi-antiphonal setting (Ex. 19). A similar juxtaposition takes place at the end of the short piece where the final words of the poem ("Praise him") are sung in a mixture of noise and pitch followed by the rapidly whispered phrase "all in stipple" taken from the third line of the poem (ex.20.) To someone familiar with the poem, the setting adds a dimension of meaning by creating a counterpoint of textural reference united by a consistent musical language.

Example 19 is a musical score for four voices (SATB) in 3/4 time. The lyrics are: "brin-ded cow - skies", "brin-ded cow - skies brin-ded - color", "brin-ded - of cou-ple", and "Skies". The music features syncopated rhythms and dynamic markings such as *fp*, *p*, and *mf*. The lyrics are written below the notes, with some words split across lines.

Example 19: Robert Rollin, *Gloria Nova*, mm.8-10.

Copyright Acoma/Nambe Editions, 1994.

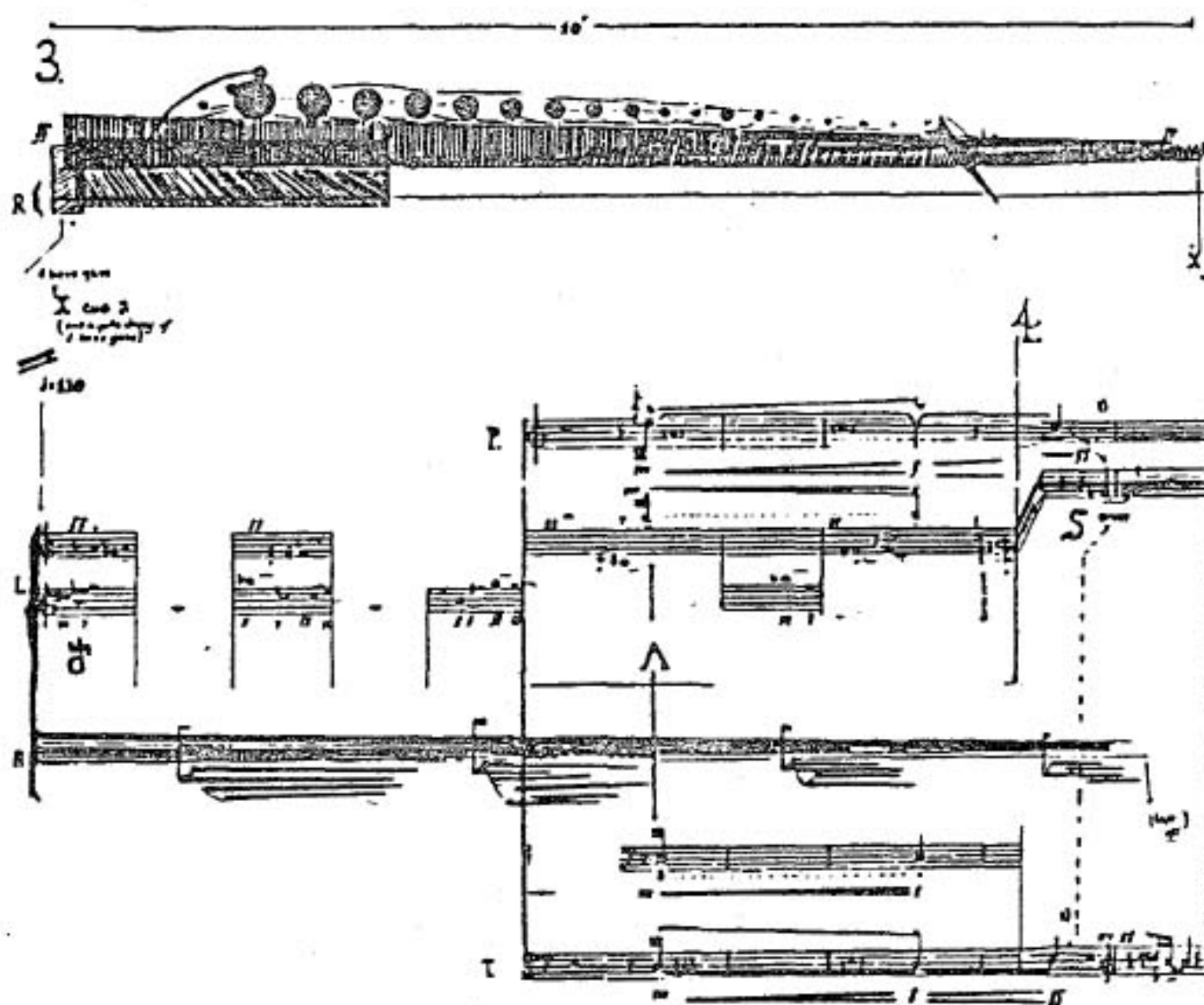
Example 20 is a musical score for four voices (SATB) in 3/4 time. The lyrics are: "Praise - him", "All in stipple.", "Praise - S -", "All in stipple.", "Praise - S -", "All in stipple.", and "Praise - him", "All in stipple.". The music is marked "WHISPERED!" and includes dynamic markings like *f* and *p*. The lyrics are written below the notes, with some words split across lines.

Example 20: Robert Rollin, *Gloria Nova*, closing measures.

Copyright Acoma/Nambe Editions, 1994.

Antiphony IV for piccolo, bass trombone, double bass, and two-channel tape by Kenneth Gaburo is a setting of *Poised*, a short poem by Virginia Hommel. The left channel of the tape consists of recorded and electronically-manipulated vocal sounds derived from vocalization of the text. The text is broken into its phonemic parts and is therefore unrecognizable as such in performance. Purely electronic sounds are present on the right channel (rear stage right) and along with the three unlike instruments support the explosive entries of the text, take over and dominate the musical flow, or drop out completely allowing an independent counterpoint among the instruments and left-channel voice part.

Gaburo, one of the architects of the aforementioned tradition of experimental vocal music at the University of Illinois and the University of California at San Diego, refers to the submergence of language into the abstract complexities of musical flow as "compositional linguistics." His choral compositions go back to the early 1950's and evolved from traditional notation and tone painting to experimentation with the boundaries between music and other arts such as language, visual arts and dance. In *Antiphony IV* his experiments reach the point where electronic amplification is a dominant feature. The bass and piccolo perform at the front of the stage (slightly off-center to the right), but are miked to speakers placed very close to the audience (piccolo speaker to the extreme right; bass speaker, extreme left). The trombone (placed slightly to the right and even closer to the edge of the stage) is the only unamplified sound producer.



Example 21: Kenneth Gaburo, *Antiphony IV*, Section 3 and beginning of 4.
Copyright, 1967, Lingua Press, Used with permission.

The piece is nearly 9 1/2 minutes long and divides into 21 continuous sections. Example 21 shows section 3 and the beginning of 4. The third section begins with exclusively synthesized sound except for the overlapping ascending bass glissando. The black circular graphic notation represents high-frequency square-wave clusters and the downward-pointing black wedge, clangorous signals. At the tempo change to ♩ = 120 sporadic entries of left channel vocal phonemes appear in counterpoint to the continuous synthesized sound of the right channel. The parallel narrow black wedges are low modulated pulse trains. Especially interesting and characteristic of the piece as a whole is the simultaneous attack of the vocal channel and the three instruments near the end of the section. This complex sound which itself undergoes a crescendo in the instruments, coloristic fluctuations in the right channel electronics, and pitch changes in the vocal channel, is more than the sum of its parts and represents innovative timbral and textural treatment.

Collaboration One (1973), a multi-media work, combines the computer graphic efforts of Herbert Brün with the linguistic composition of Kenneth Gaburo. The piece utilizes a thought-provoking text by Gaburo called "The Beauty of Irrelevant Music" which is satirically critical of modern society's attitudes towards composition and new music. This text is first read and then six scribes and six projectionists interact in a game-like process which results in projection of images and the execution of line drawings on a 9' x 16' white paper surface, while a twenty-minute two-channel pre-recorded tape of the six scribes voicing the expression "Mutatis Mutandis" in various voice combinations, spacings and densities, and another four-channel tape are played. Green and red lasers are controlled by a laser performer and, after the various processes dissolve into darkness, three of Brün's graphics are projected on three of the six scribes who slither back down to their original prone horizontal position of the floor. In a work such as this, very little is left of a traditional conception of vocal music. The work is rather a theatrical mixed-media event the second portion of which is a kind of visual/sonorous reaction to the recited text.¹⁷

Mixed media concerns aside, Elise Bickford Jorgens in her "Prologue" to *The Well-Tun'd Word*, a book dealing with the relationship between words and music in the English renaissance lute songs of the first half of the seventeenth century, makes an interesting general point:

Music often lags about a generation behind the other arts in adopting conventions that can be related to a 'period' style. In periods when vocal music is in the vanguard, a case could be made that this lag is, at least in part, directly related to the time required for composer to assimilate new literary tastes before they can begin to respond creatively to them.¹⁸

¹⁷ See Gaburo's introductory remarks and closing notes (Lingua Press, 1976).

¹⁸ Elise Bickford Jorgens, *The Well-Tun'd Word: A Musical Interpretation of English Poetry, 1597-1657* (Minneapolis: University of Minnesota Press, 1982, p. II.)

Jorgens is quick to point out in a footnote that

The notable exception to this is the vocal music of the twentieth century. Contemporary composers have been thoroughly eclectic in their selection of texts, choosing poetry--and sometimes choosing all periods and cultures.¹⁹

One reason for this diversity has been a qualitative change in attitude towards texts since the 50's that can be summed up in terms of a heightened concern for the phonemic, sonorous, or if you will, musical, quality of the text itself. This has been accompanied in some cases by interest in linguistics, phonetics, and the physics of vocal sound production. Seen in this light, textual diversity seems attributable to an interest in the phonic quality per se of all sorts of texts rather than merely to a necessarily eclectic procedure.

The works examined here, by no means exhaustive of the current variety of approaches, nevertheless suggest the diversity in the relationship of words, music and voices. We may conclude, therefore, that traditionally-accepted vocal sound production has been augmented and enriched by a host of new sounds, that treatment of words may range from syllabic clarity to submergence in a complex musical texture or phonemic analytic treatment, and that performance space may vary from the traditional concert environment to antiphonal stage set-ups and complex multi-media creations. London's use of psalm text and comic illustrative theatrical gestures, Brooks' use of musical parody, Kavasch's simplified harmonic language and Rollin's textual reorderings may be considered to represent a trend toward greater audience accessibility without relinquishing compositional structure.

Roger Reynolds and Kenneth Gaburo (in *Antiphony IV*) seem more concerned with development of a total musical effect than with textual intelligibility. In their joint work, Kenneth Gaburo and Herbert Brün are experimenting with the boundaries between music, visual arts, and theatre. The matter of where composers will now turn is a question upon which it is interesting to speculate. Gunther Schuller in a recent keynote address to the Society of Composers called for a time of consolidation--but such consolidations can be fraught with artistic danger. Italian painter Giorgio di Chirico attempted such a step in the second decade of this century with tragically disastrous results. The great precursor to the surrealists was reduced to the role of an academician whose work for the succeeding 50 years is now seen to be a sterile reflection of his earlier greatness. In music the other side of the aesthetic coin would be Johann Sebastian Bach. Labelled a die-hard conservative by his contemporaries, the far-reaching depth of his artistic contribution was only later to be understood. Each composer must find his own solutions to this dilemma, a dilemma made even more vexing when applied to the complexity of combining words, music, and voices.

¹⁹ Ibid.