VOX HUMANA

ALFRED WOLFSOHN'S

Experiments in Extension of

The Human Vocal Range

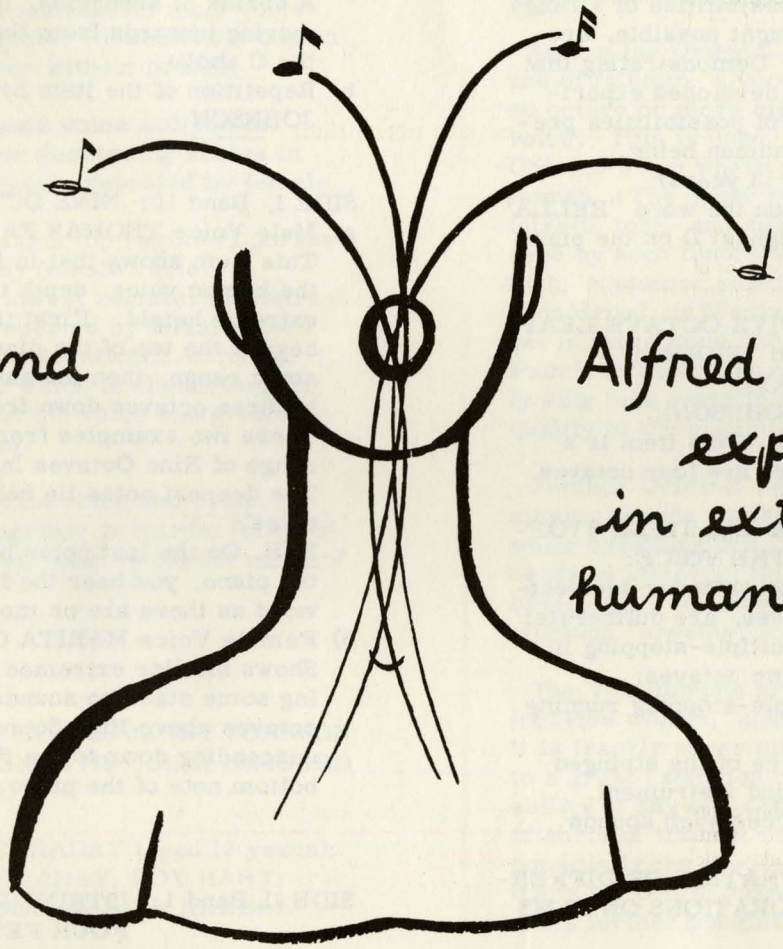
FOLKWAYS RECORDS

FX 6123

FOLKWAYS RECORDS Album No. FX 6123

VOX HUMANA

recorded in England



Alfred Wolfsohn's experiments in extension of human vocal range

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Introduction by Dr. Henry Cowell

SIDE I, Band 1: "LEND ME YOUR EARS!"
Demonstrates that intelligible phonation of words can be made in ranges beyond those thought practical by previous theory.
Female Voice MARITA GÜNTHER in a range of Seven Octaves.

SIDE I, Band 2: DUET IN NEW VOCAL SOUND RANGE:
Two female voices, singing arpeggios, cross each other, one ascending, one descending. In a range of Five Octaves. (MARITA GÜNTHER, descending arpeggios; JENNY JOHNSON, ascending arpeggios: between Bass F, and F one octave above coloratura high F, i.e., just below top of piano).

SIDE I, Band 3: BOY'S VOICE:
This item shows that the possibilities of a range which was never before thought possible, are latent already in the child. Demonstrating that these items are not simply developed experiments, but the exploitation of possibilities previously unsuspected in the human being.
MICHAEL FARADAY (aged 12 years):
a) Range of Seven Octaves on the word "BELLA"
b) Short coloratura from highest D on the piano to the F a fourth above.

SIDE I, Band 4: FOUR & FIVE OCTAVE LEAPS on the word "VIOLA":
a) Boy (MICHAEL FARADAY);
b) Female Voice (JENNY JOHNSON);
c) Male Voice (ROY HART). This item is a Five-Octave jump, others are four octaves.

SIDE I, Band 5: DOUBLE & MULTIPLE STOPPING BY THE VOICE:
Such effects have been known to occur accidentally; these examples, however, are deliberate:
a) MARITA GÜNTHER - Multiple-stopping in chords stretching over two octaves;
b) JENNY JOHNSON - Double-stopping running in octaves.
Double stopping is a resource of the stringed instrument as opposed to wind instrument. Here the human voice produces such sounds.

SIDE I, Band 6: DEMONSTRATION OF DIFFERENT COLORATIONS ON SAME NOTES.
This item shows nuances and colors which are possible in an octave which is not used in music literature.
FOUR MALE VOICES descend from the F in Middle Register, to the Bass E, repeating each note on the words "VIOLIN, VIOLA, CELLO", with their appropriate colorations. Then they descend from the deep Bass C to the A just over two octaves below, on the word "DOUBLE-BASS".
(ERNEST COLE; ROY HART; THOMAS FARADAY; JULIAN KEEBLE).
(In this example, as in the later examples of the Male Voice, the piano plays an octave above the voice, in order to keep up with it).

SIDE I, Band 7: FIVE FEMALE VOICES repeat the last example, down to the last note of the piano keyboard.
(AVIS COLE; GIL JOHNSON; JENNY JOHNSON; MARITA GÜNTHER; IRMGARD WERSANER).

SIDE I, Band 8: THE MALE & FEMALE VOICES of the last two examples now combine in singing a theme from "Chanson Triste" (Tchaikovsky). To show that these octaves which are below the recognized deepest male and female range can be very expressive when used melodically.

SIDE I, Band 9: NEW REGISTERS. (MALE & FEMALE VOICE).
It is said that there was one tenor in the world who sang F above Top C. As one will see from this item, there is no break inside the three octaves, and no falsetto sounds are used.
a) Male Voice ERNEST COLE
A series of arpeggios, their starting notes moving upwards from the tenor High C to the C above.
b) Repetition of the item by Female Voice GIL JOHNSON.

SIDE I, Band 10: NINE OCTAVES...
a) Male Voice THOMAS FARADAY.
This item shows that in this development of the human voice, depth is connected with extreme height. First the voice soars well beyond the top of the piano into near ultrasonic range, then the same singer descends to three octaves down from low Bass F! These two examples from this singer show a range of Nine Octaves in the human voice. The deepest notes lie below the lowest organ notes.
N.B. On the last notes below the bottom of the piano, you hear the finger tapping the wood as there are no more notes...
b) Female Voice MARITA GÜNTHER.
Shows similar extremes of range, first singing some staccato sounds up to the B flat two octaves above High Soprano; subsequently descending down to the F just below the bottom note of the piano.

SIDE II, Band 1: 'STRING QUARTET' FOR FOUR FEMALE VOICES.
This item not only proves that the range of four octaves can be easily used, but shows how the instrumental quality of the human voice can be utilized.
(JENNY JOHNSON; GIL JOHNSON; AVIS COLE; MARITA GÜNTHER).

SIDE II, Band 2: EXAMPLES IN SINGLE VOICE.
Separate resources demonstrated by the various male and female voices, are shown to be contained in one female voice - JENNY JOHNSON:
a) "VIOLIN, VIOLA, CELLO; DOUBLE-BASS" as Item (6);
b) The range of the violin shown in a short ex-

cerpt from a Brahms 'Hungarian Dance', in the latter half of which the tone color is varied. Here the human voice shows a versatility which is not possessed by the stringed instrument;

c) Coloratura of 4-1/2 octaves in excerpt from 'Villanelle' (Eva dell'Acqua);

d) "WATER BOY" - an octave below the usual contralto. A free arrangement which includes ascent to D an octave above the coloratura;

e) Free arrangement of the Alabieff-Liebling "NIGHTINGALE" (from Russian folksong) in range of Four Octaves.

VOICE versus INSTRUMENTS:

SIDE II, Band 3: Duet between female voice and a Viola (descending scale). Repeated with female voice lying a third below instrument.

Side II, Band 4: Male voice and Cello. Descending scale. Repeated with male voice octave below cello register (to show that human voice continues register without break).

SIDE II, Band 5: Female voice and Violin. First violin plays three descending scales in top register of instrument, repeated by female voice (Jenny);
Then violin plays (in same top register) phrase of Brahms; repeated by female voice.
Then same phrase in lowest register of instrument, which is then repeated by female voice twice, using different coloration (i.e. violin must keep same color which is characteristic for the instrument, but the voice has greater resource of coloration).

SIDE II, Band 6: Female voice and Flute. They descend scale together in thirds; followed by same scale staccato, down to lowest notes of the instrument.

THE SINGERS:

Female: MARITA GUNTHER; JENNY JOHNSON; GIL JOHNSON; AVIS COLE; IRMGARD WERSANER.

Male: MICHAEL FARADAY (aged 12 years); THOMAS FARADAY; ROY HART; ERNEST COLE; JULIAN KEEBLE.

SOUND RECORDING by Thomas Faraday.

Introduction by Henry Cowell

The human voice is capable of doing a great variety of different things. Usually singers in training are discouraged from experiment, and focus on an equalization of tone-quality, so that the voice will have a blend of "head" (pure) tone and "chest" (rich) tone throughout a range which usually varies in a cultivated voice from about one octave and a fourth to two octaves or so.

In the Far East, singers are trained to produce several (usually seven) stylized tone-qualities, each for a specific traditional dramatic or expressive use. While the Western teacher "places" the voice so that it has command of one tonal blend (usually with severe warnings to the student that any tampering with this will ruin the voice), the Oriental students suffer no injury to the voice by their command of seven types of tone.

Among the Oriental techniques there is the use of falsetto, a vocal harmonic or overtone an octave or more higher than the "normal" voice. This is used, for instance, on the Chinese stage where male singers impersonate women. The upper part of Swiss yodelling is a falsetto tone, and such tones were sometimes used by such tenors as John McCormack for high, sustained sounds. Today the falsetto is considered, in Western music, in poor taste; yet in large male choruses such as Leonard de Paur's Infantry Chorus, a few men unobtrusively sing high parts in falsetto, to give a brighter quality to the ensemble.

Another Oriental technique is that of producing singing sounds while breathing in as well as while breathing out, so that the singer never needs to interrupt the song for purposes of breathing. The line of sound can be continuous, although "breathy" in quality.

The Vox Humana group of singers in England includes women, men and at least one child. It is frankly experimental, and dedicates itself to a great extension of vocal range, and the ability of any one singer to produce a variety of sorts of timbre. Since the human voice is potentially the greatest musical instrument there is, one welcomes greatly this exploration of its further possibilities.

The fact that this group does not always do exactly what they claim to do, that they might explore profitably in many directions now untouched by them, and finally that what they do has a rather tenuous relationship to music as it now exists is perhaps beside the point. One does not have to dismiss the fact that interesting things are done by voices, things which might have a good application to music in the hands of suitable composers. If composers know that they may write freely for the voice in a high area, they can and will produce works in which

the truly musical side may be brought forth. It is offensive to the musical taste to take a classical string quartet, and have the four parts taken by human voices. It was not meant for voices, and sounds far better for the strings for which it was written. What IS shown, however, is that voices can produce at will several sorts of tone quality, some of them excellent for use in quasi-instrumental style, and in chamber music. They do not have to sound just like violins, violas and violoncellos to be valuable.

Granted, then, that before their experiments become an integrated part of music composers must create things especially for them, let us examine just what new things the Vox Humana singers bring forth.

In order to understand the result, it must be pointed out that their teacher, Alfred Wolfsohn, abandons the older theory that human voices are "natural" sopranos, contraltos, tenors or basses, or mezzos or baritones. He takes the position that all voices are capable of having complete ranges of all musical sound from low to high, whether of men, women or children. These ranges are extended from the middle in both directions. He works to do this with no perceptible break in the voice, so that it does not jump suddenly from a "natural" to a falsetto tone, as in a yodel. Nevertheless, there are elements of overtones in the extreme high tones; and the unusually low ranges are produced by what for want of a better word must be called bleating: that is to say, tones of the same pitch are interrupted rapidly with silence. The pitches that are actually sung are low, but not the extreme lows claimed; the rhythm of the tone-interruptions is correct for the vibrations of the claimed pitches, but I admit I cannot hear them, and feel it to be most doubtful whether these sounds are physically produced.

The extreme highs are another matter. They are there, in clear, pure, in-tune tones, produced by a combination of harmonics or overtones - a conscious division of the vocal chords into halves (producing the first overtone, a regular falsetto) and sometimes shorter subdivisions (making still higher overtones), in combination with an over-blowing technique like that applied to all wind instruments; higher pressures to produce higher pitches. In this manner, musical tones are formed up to the very top of the piano range.

It is possible to sing more than one overtone simultaneously, or to produce one tone with the vocal chords and another by throat-whistling; and so there is an example of a single singer sounding a succession of two tones at once. As yet, however, it is not controlled enough to be used for composed musical purposes.

Perhaps the most interesting and valuable contribution is the vocalising in quasi-instrumental tones and styles. It is not so important to make a voice imitate certain known instruments, since the instruments can play for themselves; but it is very provocative to consider that human voices can produce a myriad of different timbres, that a composer may call for practically any sort of tone he wishes, and that any Vox Humana-trained singer of any age or sex can sing it according to the composer's desire. It would appear from the techniques already developed that a musical tone of almost any desired quality can be sounded from the bass to an ultra-treble range, continuously and smoothly. We hope that this group will continue to experiment and grow, and that they will gather to them interested composers who will explore with them the really musical uses of the new sounds. One foresees the growth of a modern sort of English madrigalism.

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Notes by Leslie Shepard

"THE VOICE OF THE WORLD'

This is the story of a unique experiment with the human voice.

* * *

From time immemorial, legends about the voice have hinted at greater possibilities and resources than are generally recognized in the present century.

You will remember the ancient Greek story of Orpheus who could charm wild animals and even trees by his songs - how his singing so moved the hearts of the guardians of Hades that they released his beautiful wife Eurydice.

There is the Cabbalistic legend of the Tetragrammaton - the "Name that Rusheth Through the Universe"; utterance of this holy name of God was reputed to have power to change the form of the world as we know it. Similarly in Hindu legend there is the Sanskrit holy word "AUM", a name that became power through the forty different ways of pronouncing it.

Perhaps some of these legends may sound foolish today, and yet - how much do we really know about the power of the voice? It is not so long since many Americans believed in the magic spells of the 'hex' books like Hohman's "Long Lost Friend"! Since such stories occur in most countries of the world, we must conclude that there is some truth in them that has been magnified and distorted in being handed down the centuries. This is the story of an experiment to rediscover some of the old magic of the human voice.

* * *

Every now and then, the musical world is astonished to hear singers whose performance as regards range is so far above the normal as to appear a freak of nature. The latest example is the Peruvian singer Yma Sumac. It has, however, been proved that far from being a freak or abnormal, these voices must be considered to be much nearer to normal than the rest, if one agrees to a norm based on what is inherently possible to man!

Can you imagine a dozen Sumacs, male or female - able to sing arrangements of complicated classical arias? Can you imagine a singer with the range of Sumac multiplied by two?

And do you believe that even you could sing the highest notes of the soprano as well as the lowest notes of the bass?

Alfred Wolfsohn believes you could, and what is more, he has been teaching people like you to develop this ability, as well as even more astonishing performances! It is part of an experiment with the human voice, which has been conducted for some years without publicity or sensation. It is not a stunt or freak, but part of a serious contribution to the resources of music. From time to time musicians and others who have been privileged to have a preview of different stages of the work have been astounded by what they saw and heard.

The experiment began as a result of two ideas.

The first was the power of the human voice.

Wolfsohn lived in Germany at a time when the voice of one man had power to change the life of a whole nation in an evil way. This voice, which came from an insignificant man, grew in a cellar; it spread out to street corners, and then to the great square at Nuremberg with an audience of thousands. It was magnified and relayed by radio all over the world, and wherever it went it moved men to destructive acts of folly, mad ambition, and unspeakable cruelty.

Before he escaped from Germany to serve with the British forces, Wolfsohn had the idea that it must be possible for the voice to have power in a positive way, instead of a negative way.

The second idea came as a result of these experiences. It was simply that ordinary men and women have capabilities and potentialities that would surprise themselves.

Normally we have little idea of the possibilities that lie within ourselves, and are astounded when these things are brought to light by accident or stress. In times of war, for example, men have shown that they can be heroes or Olympic champions! They can achieve feats of physical endurance, they can run faster, see further, shout louder, or stand pain in a way that was never before apparent!

Alfred Wolfsohn, who has been through two World Wars, knew these things, and in his work as a singing teacher he found that it was necessary to be a psychologist too. He soon became known for his uncanny abilities as a 'voice doctor'; he could restore voices lost through fear, overstrain or bad training. He could develop fine and beautiful tones from people who appeared to have no voices at all.

He has always believed that the human voice has been neglected compared with the development of instrumental music, and he set out to discover how the voice could have as versatile a range as any instruments, and develop new tone colors and dynamics in singing.

To begin such an experiment, Wolfsohn needed support, and he found this in a strange way. One of his first and most loyal supporters was James Johnson, a man who had once been his enemy! During the first World War they were both soldiers, but on different sides, and they must have faced each other in the same village on the Somme on the same day! Johnson was a Chartered Accountant with the soul of a poet, and he understood the experiment and gave it every support. He provided a studio in North-West London, and he and his two daughters became some of the first subjects.

One of the first problems was the terrifying sounds involved in training - before beautiful tones can be developed pupils make what can only be described as 'prehistoric' sounds, sounds in which one can hear primitive fear and hate. Even in later stages of training, the amount of volume and resonance from any individual voice is overwhelming, in these days of microphones and electrical trickery! A group of a dozen young pupils can sound like a choir of fifty persons!

So it was essential to have a soundproofed studio in which these experiments could be conducted. And here, a new human sound developed, moving from 2-1/2 to four octaves, from four octaves to eight and nine!

What does such an extension mean?

Look at the keyboard of a piano - there are roughly seven complete scales or octaves, ranging from very deep sounds to very high sounds. Now imagine a human voice which can sing from the top of the piano right down to and off the bottom edge, and you have some idea what these singers can achieve! Next you must conceive that over the middle octaves of the piano such a voice can give you the tone-colors of different instruments on the same note!

Where will it end? And what does it mean?

It has already been shown that both male and female voices are capable of producing sounds within a range of eight to nine octaves. How far this extension of the voice can ultimately be pushed cannot accurately be gauged at the moment, because the work has only been in progress for a few years, and, more important, because the final limit will depend on the ability of both brain and ear to imagine and hear the sound before attempting to utter it. Needless to say, the same difficulty will exist to an even greater extent at first for the untrained listener - not that this is a new point in instrumental music, since many works need to be heard a number of times to comprehend their musicality.

As might be expected, an extension of this kind must have repercussions in other directions also. It is not surprising to find it opening up the range of expression of the voice, with everything connected with it.

As the true nature of the voice is approached more and more closely, the wealth of coloration increases all the time. Even entirely new colors come into existence. A similar development takes place with regard to the dynamics available to the singers. These developments add up to an enormous gain in the expressiveness of the human voice.

But this means that we need to have a new conception of the voice. It is usual practice to divide the human voice into four main categories: soprano, contralto, tenor and bass. But in the moment in which one single voice can be extended to cover these four registers, they must cease to have their specific meaning, since it is shown that this apparently specific part of the whole is contained in any one voice.

It can further be shown that any male voice contains female elements and conversely any female voice contains male elements capable of being developed fully if desired. This must, of necessity, lead to the basic conception of the human voice, as opposed to the specialized one. Since the voice is not simply the function of an anatomical structure called the larynx, but the expression of the personality as a whole, this is tantamount to the requirement of a personality fully developed in every direction - not stunted in any one way by the over-specialization in one particular direction!

All of us can remember feelings, aspirations, from the earlier parts of our lives that became suppressed and submerged in the everyday social compromise of adult life. Most of us who have not become hard and warped know that we are only half alive - that we are capable of more than the sad, uneasy or hypocritical reasons that we give ourselves for being alive.

This extension of the Voice is therefore more than a new system of singing. Pupils are brought face to face with their own hopes and fears as people. Many of them did not start out with the idea of becoming singers, but only of finding a way to overcome psychological problems.

Strange possibilities have been released in the course of training. Some pupils discovered within themselves an unsuspected talent for painting once a certain stage in the production of sound had been passed! Some had strange and vivid dreams, others found moments of telepathic power! Quite apart from the miracle of the vocal extension itself, new inter-relationships with psychology and paranormal phenomena have been discovered.

It is interesting to find in this connection that certain experimenters in the, as yet, new and unconventional field of medical radiesthesia have come to similar conclusions independently. For example, G.de la Warr, A.M.I.C.E., G.I. Mech. E., F.R.S.A., in describing the experiments at his Oxford Laboratory, said: -

".....I now come to an extremely important "feature of this evocation of Fundamental "Energy inasmuch as we have found that air "waves can be made to produce an almost "parallel effect to light waves. It is possi-"ble to stimulate any cell group in the body "by the appropriate combination of notes or "chords of music. The chord must, of "course, have a similarity with the waveform "emitted by the particular cell group it is "wished to stimulate.....I believe that the "correct combination of high intensity sound "waves would completely disrupt any cell "group in the human body if scientifically "applied."

The de la Warr Laboratory has made some interesting experiments in the medical use of sound to correct disease conditions in the body.

Some people will say that such work and theories are too unorthodox to merit serious investigation, and yet so often we find the conventional and the unconventional sciences moving in the same direction. In the last few years, the science of "Ultrasonics" has shown industrial applications of sound frequencies beyond the limits of the human ear. Well above the upper limits of 16,000 cycles per second are the sounds of Grasshoppers, Bats, and the artificial productions of ultrasonic apparatus. How many people realise that such high-frequency sounds have been used to guide ships in the dark? Modern scientists have devised the ultrasonic soldering iron, have used high sounds to shake dirt out of clothing, and to mix together liquids which will not normally mix. Can we doubt the strange possibilities of Sound when we learn that small living creatures and microbes can be torn to pieces by ultrasonic frequencies. Science is the modern magic!

* * *

It will be seen that very large possibilities are concerned in the extension of the human voice! Those who have come in contact with this project have found that the questions raised are universal ones, as well as personal ones.

A talented young orchestral conductor discovered this hidden urge to sing which is in all of us, and said he would give up all his orchestral work if he could only be a singer!

Where does the voice stand, compared with the instruments?

If one accepts the view that the various instruments created by man are but projections of his own voice, one must also accept that the voice must contain within itself all the possibilities of these instruments. The inferiority and limitations which the voice apparently has when compared with the instruments of the orchestra, are overcome by the extension of the voice, and this to such an extent that it would be difficult for anyone to deny that the voice can more than hold its own in this comparison, both in range and in variety of coloration and expression.

The composer of the present and future should be able to set the voice within the range of four octaves, but even more important, he should be able to treat the voice as an orchestra in miniature.

And, too, there is music in the spoken voice, in the dramas of the playwright, and the verse of poets. Centuries ago, minstrels and gleemen were performers, too, who held their audiences spellbound with tones and colors that the modern poet cannot compass and the mind must supply from the printed page.

In the use of this wide range in the speaking voice, there are new opportunities for the dramatist and the actor, as they find the courage to use them.

And, of course, courage is very much concerned in this development that has the power to eliminate fears.

There was a time when music, poetry and the dance, were dynamic activities common to all people in a given culture. Everybody took part themselves. The last traces of the wonderful creative work of those times are still collected by solemn professors of folklore and folkmusic. And today, people leave it to the expert, with something wistful in their applause for the high skill of the specialized singer.

The last two hundred years have been confusing ones for our own time, but out of this melting-pot of violent contrasts, individual skill versus machine perfection, complex civilizations versus individual human needs, we are refining new truths and rediscovering old ones.

This extension of the voice must be considered in the light of the general tendencies of our time.

Modern psychology has now arrived at and developed the ancient Chinese concept of the essential unity and sameness of the apparent opposites: height based on depth, sky on the earth, male on female. Throughout history, men have been engaged in this quest for height and depth: Odysseus - Dante - Milton - Goethe - up to Professor Piccard of our own time. It is now possible to look at the phenomenon of the conquest of Mount Everest and the achievement of the four-minute mile of Roger Bannister, in an entirely new light.

At no other time in history have all manner of limitations been so furiously assaulted as today, when old barriers are being overthrown and cleared at an increasingly rapid pace, whether it be the speed of sound, or the mass and energy equation!

Alfred Wolfsohn and his group of students have started more than a technical innovation. This work throws light on one of the oldest conflicts of mankind in an age that has been losing faith. It is a symbol that power can be used creatively instead of destructively.

SOME QUOTATIONS:

1. From "BRAVE NEW WORLD" by Aldous Huxley (describing the "Feelies" - a sort of Cinema of the Future:)

"..... Thirty or forty bars - and then, "against this instrumental background, a "much more than human voice began to "warble; now throaty, now from the head, "now hollow as a flute, now charged with "yearning harmonics. It effortlessly passed "from Gaspard Forster's low record on the "very frontiers of musical tone to a trilling "bat note high above the highest C to which "(in 1770, at the ducal opera of Parma, and "to the astonishment of Mozart) Lucrezia "Agujari, alone of all the singers in history, "once piercingly gave utterance....."

2. From WILLIAM BYRDE, (famous musician of the reign of Queen Elizabeth the First - an age when popular singing of great skill was common to nearly everyone:)

"The exercise of singing is delightful to "Nature, and good to preserve the health of "man."

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