

611 C.3

HEARING STUDIES

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FOR MUSIC 5

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## \* HEARING STUDIES

Purposes: 1. To increase your awareness of your hearing mechanisms and the sensitivity with which you use them.

This includes knowledge of the physics of sound and music, and of the physical structure of the ear.

2. To increase your awareness of the psychological processes employed in hearing.

For example: Selective attention, (the 'cocktail party phenomenon') by which you determine which audio signals you will regard as significant and will consciously hear, and which you will ignore.

3. To demonstrate the influence your physiological state and the various processes involved have on your perception of music and sound.

For example: Circadian (daily) body rhythms which change your degree of perception at different times of the day.

These are also intended, furthermore, to counteract the 'negative threshold' by which a city dweller, bombarded with stressful sound daily, begins to tune out not only those stressful sounds, but also other sounds which might be pleasing, interesting or stimulating. This 'negative threshold' can also habituate one to a lowered response to music and limit the kinds of music to which one chooses to listen.

They act also to extend one's vocabulary of sounds which in themselves can give pleasure and may become part of an expanded concept of the sound materials of music. An extension of one's aural vocabulary brings with it an awareness of the different purposes of different musics, and is valuable personally within the context of our current culture.

It is important to understand that you are not simply acted upon, passive, but that you can use your knowledge and sensitivities in a positive, active way in your own sonic environment. Further, as a listener, you play a demonstrably active part in the structure of a piece of music as you restructure it via your own individual perceptual patterns.

\*Designed and developed by Annea Lockwood and Ruth Anderson

INSTRUCTIONS FOR DOING THE HEARING STUDIES:

1. Write the particular hearing study in the notebook given.
2. Do the hearing study.
3. In the notebook given, note down all of your reactions and experiences, after you have done the study.

**Note:** If you become aware of any slight degree of discomfort in doing a study, stop. You may be able to do it at another time.

However, distinguish between the discomfort that may come from directing your attention and developing a mental discipline, as contrasted with actual minor discomfort

THE KEY TO DOING THE STUDIES IS TO "LET" YOURSELF DO THEM, "LET" YOURSELF EXPERIENCE THE STUDY, RATHER THAN "TRYING", OR FORCING YOURSELF. TO "LET" ALLOWS THE EXPERIENCE OF THE STUDY TO HAPPEN, WHEREAS "TRYING" IS IN ITSELF A TENSION THAT MAY BLOCK YOUR ABILITY TO EXPERIENCE THE STUDY.

## HEARING STUDIES

#1 ✓

## HUMMING 1

One of the musicians will start humming. Join in whenever you wish to, humming on the note most comfortable for you. Take long, deep breaths and sustain each sound as long as is comfortable. Let the pitch drift. Close your eyes. Sink into the sound totally. Let the sound use your body as a resonator, as a channel for its vibrations. Send the sound steadily and strongly outwards from yourself. From time to time the whole sound may fade, like a communal breath being taken, and then will begin again naturally. If the humming continues for over twenty minutes, you will begin to feel ecstasy. The humming will end of its own accord.

- *Anner Lockwood*

Note: This is also an "instruction piece" or "text piece", meaning that the instructions for making the piece of music are given in words rather than music notes.

The first purpose of the study is to present a participatory piece of music. While this is its main purpose, it may also be used as a hearing study to demonstrate that music and sound are forms of energy, may be used to energize; it also uses the instrument we all have, the voice; it further is an experience in creating a piece of music through participation, and through improvisation.

- ✓ #2 Listen to one steady sound in your usual environment, such as a clock, electrical hum, refrigerator, fan, for ten minutes in the morning and again for ten minutes at night. Continue this for one week.

Aim: Attentive listening to a familiar sound may reveal complexities and elements of which you are not usually aware - you are hearing it more fully than usual and this helps improve hearing acuity by moving from a surface hearing, and superficial hearing, toward the inner content of a sound. There is often more detail in sound or music than is consciously perceived, some of which is not available to conscious perception, but some certainly is, particular after repeated hearings. Increasing your sensitivity to the details of the inner content of a sound can enrich sound and music experiences greatly.

Further, audio illusions tend to arise when one listens to a steady or repetitive sound for some time. The brain assimilates all the information content of the sound within a certain period of time, after which it tends to start scanning for new material. If no new material comes, illusions of change in the sound can arise. Psycho-acousticians suggest that in addition to sympathetic vibrations within the inner ear, the hearing mechanism begins to tire and to produce responses other than those induced by the sound, which the brain then interprets as a change in the sound.

- ✓ #3 In a room at home, listen for the sound which is the most distant from you.

- ✓ #4 In a room at home, listen for the softest sound which you can hear.

Aim: (of #3, #4) To demonstrate the threshold of audibility. To heighten your hearing acuity - by becoming consciously very sensitive to distant sounds and to sounds which are only just audible, you expand your sensitivity of the whole range of audible sound, a range which city living tends to reduce because of the amount and level of sounds to which you are exposed daily.

With repetition of this study it becomes clear that the threshold of audibility is variable, not fixed, and that our range of hearing is expandable given selective attention.

- #4<sup>a</sup> At home, find the softest sound you can produce with materials in that environment. Bring this sound to class.

- #5<sup>b</sup> At home, find a sound which is pleasing to you, which you can produce with materials in that environment. Bring this sound to class.

Aim: (of #4, #5) To demonstrate and increase the threshold of audibility. To become aware of pleasant sounds which you can make for your own pleasure, and that of others, in your home environment.

## HEARING STUDIES

- ✓ #6 Start listening for repetition patterns in speech: a word, a phrase, a particular intonation, a quality or texture of voice.

(You may expand this to awareness of repetition patterns in behavior, and then to repetition patterns in music.)

How are the repetition patterns used in everyday communication. Are they a need? Or a nuisance? When you listen to the meaning of the words, can you also hear pitch, rhythm, texture? Are there separate listening processes, one for lexical sense, and another for musical sense?

What are the effects of repetition on you when it is used in music? Do these effects differ according to the nature of the music? If the music is familiar, as opposed to unfamiliar, does this make any difference to your perception of repetition in that piece?

Aim: In music, repetition is a very basic structuring device. Variation springs from repetition, and most music is an interplay between various degrees of repetition, variation and complete contrast. Socially, repetition ensures that information is absorbed - it enables us to recognize (people, situations, emotions, etc.). By means of observing repetition, you have a strong tool to use in perceiving the structure of music. Once you notice repetition, you also begin to notice variation and change.

Repetition in speech patterns may be related easily to the parameters of music : melody, rhythm, harmony, texture, range, dynamics, attacks, durations.

- #6A: Listen for word or phrase repetition.  
 #6B: Listen for pitch or inflection repetition; i.e., high-low, up, down.  
 #6C: Listen for repetition of dynamics; i.e., soft, or loud.  
 #6D: Listen for repetition of texture: a particular texture such as a rasping sound, a lulling sound, etc.

HEARING STUDIES

- ✓ #7 In a ten-minute period, list on a piece of paper all the sounds which come to your attention. Compare your listings with those of other persons for the same period.

Aim: To alert your perception by directed singleness of attention to sound events in a time continuity, and relate this process to directed attention in listening to music within a similar time continuity. The sounds are related by their immediate environment, and by the fact that they are perceived by you. Was this a piece? Can you hear two sounds at once? Does identifying sounds by name reduce the number of sounds you can hear?

- \* #8 Pass a piece of paper around a circle of people. Each person is to make a different sound with the paper.

Aim: To develop sound memory, to point out repetitions, variations, to explore the sounds possible with a single sound source, i.e., paper.

Relate this to sound memory used in music, to the variations of sound possible from a single source, such as one instrument, a violin, a drum, etc. Understand that this is the kind of exploration of possible sound which a composer makes previous to writing for a particular instrument, voice, group.

- ✓ #9 Listen to two people who are about equidistant from you reading aloud.

Aim: To demonstrate selective attention, (the 'cocktail party' phenomenon). To discover what parameter of sound draws your attention to one or another of the speakers, or what content of the reading draws your attention, or if there are a number of factors involved, and a number of decisions you make in your "selective attention".

\*Study designed by R. Murray Schaeffer

Lockwood-Anderson

## HEARING STUDIES

- ✓ #10 Choose a fast piece of music. Listen to it some morning, and also listen to it some evening.
- ✓ #11 Choose a slow piece of music. Listen to it some morning, and also listen to it some evening.

Aim: To show that you use a kind of bio-feedback in the music you choose to listen to in the morning, or in the evening. To show (#10, #11) that you can use music to enforce a mood, alter a mood, to energize or to tranquilize. To show that other elements of music play a part - that "fast" and "slow" are interrelated to the other parameters of music. To show that your circadian rhythm is different in the morning and evening.

- \* #12 Your name: 1/Say it in every possible way.  
2/Write it in every possible way.  
3/Say it the ways you wrote it, using your writing as a "score".

(1 and 2 may be reversed)

Aim: To find the musical elements potential in your name - melodies, rhythms, textures, contrasting dynamics, tempi, re-juxtapositions of segments, syllables, phonemes, changing structures, variety within a given.

To discover more fully how you feel about your name and its relationship to your self, and by this exploration of sound to create a very personal relationship to sound; to expand one sense and one activity with another.

\*Variant on a Sonic Meditation by Pauline Oliveros

Lockwood-Anderson

#13 SOUND PORTRAITS

I Hearing a person

This study, on the following page, (pg 9) is also an instruction piece or text piece, but may function as a hearing study.

Aim: By "thinking" of a person, you may give the left hemisphere of the brain something to do, so that you are free to experience the music with the right hemisphere. Left hemisphere: thinking, lexical.  
Right hemisphere: "intuitive", holistic.

These hemispheres are of course interconnected in your experience. You are more fully able to experience something if your initial set of attitude is positive, and therefore open.

To understand that your particular relationship to a piece of music is individual and important, and to understand that you may use music in any way you would like, for your own pleasure and particular intents. Composers very often have such guides in mind when writing music, too.

## SOUND PORTRAITS

I Hearing a person

In a darkened room, find a comfortable, totally relaxed position.

Listen to a piece of music.

Think of someone you love.  
Do not think of the music.

When you find your thought of the person is gone, bring it  
back gently.

Let other thoughts come, and then let them go.

As the music progresses, let the thought image of the person  
be central.

Be unaware of the music.

Let anything which happens happen, except keep easily bringing  
back, letting, the person image occupy you.

1973 - Ruth Anderson

You will find explanations of the person - the music will explain  
the person.

The music ideas, counterpoint, extensions, contrasts,  
repetitions, variants, rhythms, textures, quality of sound,  
all music elements are of the person,

sometimes very literally, sometimes suggesting, sometimes  
exact, sometimes understood, sometimes leading to  
understanding, sometimes verging on language, always  
primarily nonverbal, always a known sense, a coming of  
a known sense.

You will find after, an understanding of the person you did not  
have,

and a personal relationship to the music.  
The music, too, will be known.

This process may be experienced by yourself alone, or with others.  
One of the pieces I've used is the slow movement of the Mahler  
4th symphony.

HEARING STUDIES

#14 With your fingers, plug your ears. Speak. Then speak with your ears open.

Aim: To demonstrate air conduction and bone conduction in combination.

#15 Choose a word and repeat it until it loses its lexical meaning and becomes "only" a sound, but a sound with a "musical" meaning.

Aim: To notice sound itself, apart from usual meaning in communication.  
To demonstrate switch from left to right hemisphere of perception.

#16 Listen to a distinctively pitched sound approach you, reach you, and then pass by you: for example, an ambulance or fire or police siren.

Aim: To demonstrate the Doppler effect.

#17 Continue listening to a person speaking while you are also hearing a loud sound, such as a subway coming into the station.

Aim: To demonstrate masking.

#18 Listen to some sound, blocking out the process of recognizing it, hence listening only to its qualities as sound. You may need to do this a number of times, to be able to listen rather than identify.

Aim: Much sound is noticed only for the sake of recognizing "what makes that sound". Thus the energy goes into recognizing the sound, time is taken to identify it, a translation of the sound into the word which represents it is made, and sensitivity to it as sound is minimal.

Increase in aural sensitivity and discrimination is linked to sensitivity to aural detail, a sensitivity which can be cut off by the process of recognition - interference from, rather than unconscious interrelationship with, the lexical hemisphere. Once one has recognized a sound, the listening process tends to diminish and with it, attention to the sound in an experiential way.

✓ #19 Listen to a piece of music to determine its purpose - a social statement, mood altering, a pure musical experience, etc.

Aim: To realize that different musics have different purposes, and that we listen differently to them quite unconsciously.  
To discover the effects of different musics upon the listener, and expand the range of experience, enriching one's self.

## HEARING STUDIES

#20 Think of, and note down, the sounds which are personally dangerous/disturbing for you.

#21 Think of, and note down, the sounds which feel most pleasing for you.

Aim: (#20, #21) To understand that there may be sounds which are genuinely unhealthy for you, as well as sounds which are healthy of themselves. Ask yourself if you respond to the sound itself, only, or if there is an association you make with the sound and your response is really to this association. We use sound so much in our lives to signal certain events, that the utilitarian sense of sound may override the experience of the sound itself. Can one learn to disassociate the sound from its connection, and listen only to the sound? Will the sound then find a different response in us?

#22 During one week, observe yourself and determine at which times of the day you are most vulnerable and sensitive to sounds of all sorts, and at which times of the day you are least sensitive. Note down sounds and reactions, along with date and time.

Aim: To demonstrate both circadian rhythm and a longer (week) rhythm of experience, and to understand that differences in perception may be physiological and related to your internal rhythms.

#23 Lying in bed at night, for two different nights, listen for and afterwards note down and describe the internal sounds of your body.

Aim: To improve hearing acuity and to demonstrate the connection between your awareness of sound, and the freshness of its information content.

#24 Listen to some sound which pleases you (not music, a sound), totally ignoring the nature of what's making the sound, listening only to its qualities as sound, as though you'd never heard it before. Then write a description of those qualities in the greatest detail you can achieve; e.g. high or low pitched? rhythmic or irregular? thick or thin in texture? Is there more than one distinct sound pattern contained within that sound? Are there layers of sound in side it? Other details specific to the sound.

Aim: The process of recognition tends to be the primary aim of much environmental listening we do. Once a sound's source is recognized, people tend to cease to listen, so their sensitivity to the sound per se becomes dulled. Also, to identify a sound verbally inside our heads means we are hearing those verbal sounds of identification inside and cannot also hear the sound itself as well as if we were to not verbalize, not to identify. Individual sounds can be complex and beautiful. This is an experience of actually hearing the sound beyond the simple level of recognition only, and of hearing only the sound without an accompanying inner verbalization.

## #25 Listen to a familiar piece of music.

Note down, spontaneously, all the associations which arise in the form of images, words, in whatever form you are conscious of them, as they arise, while listening. Note down any sensory responses you are aware of. Afterwards consider and note down whether this experience has changed your mood at all. Any physiological changes, too?

Aim: To demonstrate that music has associative connotations and these may affect you psychologically, physically, psychologically. To become aware that the sensory experience of music in itself may effect changes also. If there are words, to distinguish between your response to the words and your response to the music. Again, to understand that you use a familiar piece of music as a kind of bio-feedback, either to change or to reinforce a mood, or to bring to mind the associative connotations.

## #26 Listen to: a/popular song; b/jazz work; c/classical work from the 18th or 19th century; d/20th century work, either classical or avant garde. Determine in each case whether the beat is conspicuous and thus an important element or not, and how the beat's level of emphasis affects you.

Aim: To distinguish if there is a discernible beat or not; to discover what part this beat plays in the overall work; to discover just how important the beat may be, and at what dynamic levels; to begin to relate beat to your own rhythms; to determine what kind of response you are making to this element in music.

## #27 Invent a study, with its aim. Carry out the study with a number of people,