

# Music of the Environment

- |     |                                       |                            |
|-----|---------------------------------------|----------------------------|
| 1.  | Tuning of the World                   | R. Murray Schaffer         |
| 2.  | Van cou over Soundscape               | " "                        |
| 3.  | World Soundscape Project              | " "                        |
| 4.  | Some Sound Observations               | Olweiss                    |
| 5.  | The Poetics of Environmental Sound    | "                          |
| 6.  |                                       | Paul Winter                |
| 7.  |                                       | Charlie Morrow             |
| 8.  | Silence                               | John Cage                  |
| 9.  | Myths                                 | collected by B. Vermeersch |
| 10. | Zoo Music                             | Tom Johnson                |
| 11. | Exploring the Crack in the Cosmic Egg | JC Pearce                  |
| 12. | Primitive Song                        | Bouza                      |
| 13. | Sonic Meditations                     | Olweiss                    |
| 14. | Dialogue with Basho                   | " "                        |

## Recordings

- |   |               |
|---|---------------|
| Beautiful bird songs of the world                               | Audubon       |
| Common Ground   | " "           |
| Zoo Tapes   | Olweiss       |
| Whale Songs   |               |
| Duo for Accordion + Bandoneon with Possible Nynah Bird Obligato | Olweiss       |
| Whale Music   | George Crumb  |
| navy training tape -  |               |
| Rain forest -   | David Tudor   |
| World Rhythms   | Anna Yockwood |

turning of the world

signal for each animal  
Pg 47 - Horn signals - illustrate with Haydn  
Horn Signal Symphony -

Pg 56 Clocks -

Concept Centripetal sound - unify + regulate community  
Centrifugal sound - drive away intruders  
or disrupts

Pg 58 Keynote Sounds

Pg 63 - Horses Horses influence Alberti Bass  
Railroad Jazzy  
Automobile Contemporary Music

Pg 76 "Wherever noise is granted immunity from human intervention, there will be found a seat of power."

Pg 78 Rhythmic impulse plus speed = jitch

Pg 79 "The function of the drone has long been known in music. It is an anti-intellectual narcotic. It is also a point of focus for meditation, particularly in the East. Man listens differently in the presence of drones, + the importance of this change in perception is becoming evident in the West."

Pg 117 "Folk music does not demand great attention to detail."

Where then is your attention when you listen to music?

World Music  
2 meetings per week plus discussion sections  
Text music of the whole Earth David Reck

Oliviero I Introduction - Musical world tour + Materials  
Housekeeping Tour of Music of the whole Earth  
Tour of course Musical prototypes

II Music of the Environment  
natural + technological

1 week? III :

S  
i

IV Music of Africa Lytle

V Music of Japan Reynolds

VI

VII Music of Bali Erickson

VIII

IX

~~Review?~~

X

Review

Final Exam

Transethnic —

Don Cherry + Tibetan Chant + Tamboura

Paul Winter + Whales & Wolves —

What is meant by reaction time in the conversation?  
What is the disagreement concerning control of the performer?  
Preparation for performance. What attitudes relating to improvisation?

What is the difficulty with scoring?

What about the oral tradition.

What is the role of the composer in the oral tradition?  
the performer?

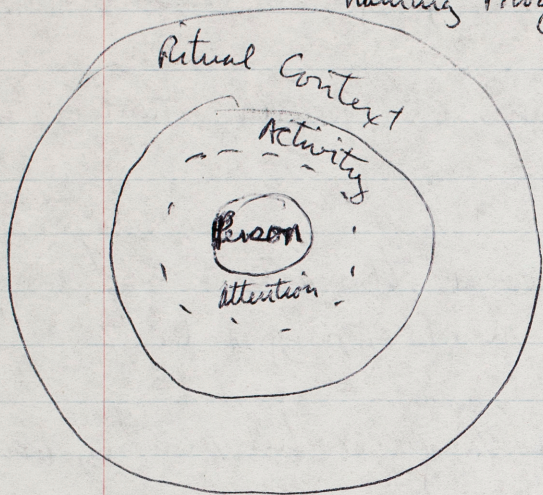
Describe what players do.

"But we can develop new ways of thinking about the compositional process only if there is someone who can totally concentrate & put it down on paper." Stockhausen

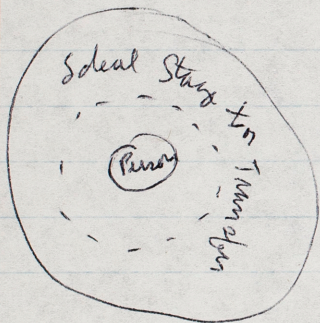
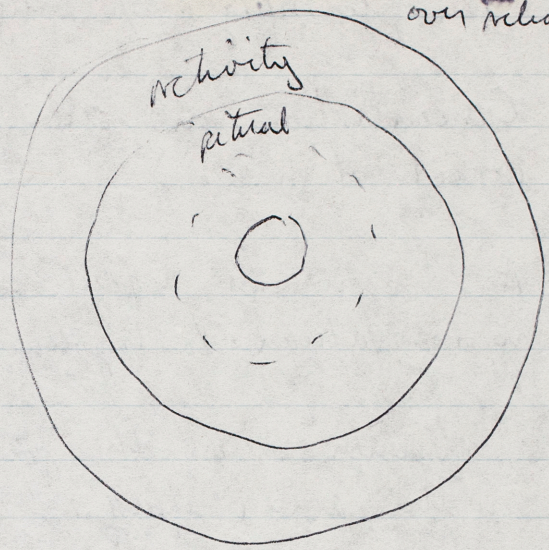
Ashley - tries to use the ensemble more completely, the ensemble determines what the person does (Trio)

How must we study pieces such as Wave Train  
Wolfman etc?

Training Program



over religion



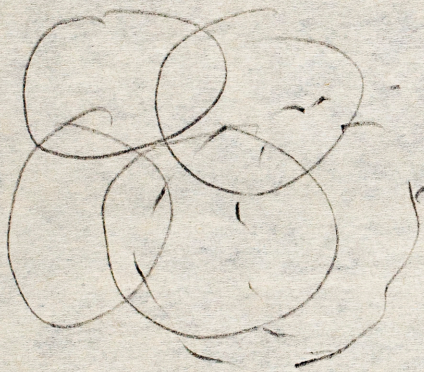
The Learning of Physical Skills, John D. Lawther, Prentice-Hall

Concentration on cue perception. (Focusing attention to correct stimuli.)

pg 78 "As soon as a cue is perceived the attention focus moves ahead to try to catch the next appropriate cue."

pg 68 "attention is on the precise cues to guide his action, but not on the action itself."

14 SEP 78



          
Four ATN. Not  
large enough to  
encompass all 4 overlaps,  
but then in previous  
Can.



Origins of Space + time

Wave theory 1800s

Waves extend throughout space

Plenum is space that's full

Go from Space + momentum to Plenum + focal

Plenum more parallel + faster

Context influences choice of attention modes

How focal + plenum processes take place in  
all disciplines - **ISA** problems exemplify  
Focal + Plenum processes

SSA



one filter we have on the world.  
Those informations which can be brought  
within the scope of SSA.

See reference  
to Dr. Heis  
paper.

Familiarity promotes plenum

Extremes of range push SSA so that  
plenum processing (more amenable to fusion)  
takes place

## Tibetan Chant

I  
from mythology  
of World Music

"Style serves as a suitable & pleasing offering to the (gods) deities, and to affect the mind. To the latter end the text drawn out to allow mediator to enter fully into their meaning"

"Words of chants deliberately slurred to blur meaning for those not prepared."

- 1) Fundamental sound is outside normal human register - (B over 2 octaves below middle)
- 2) overtones amplified by vocal cavity

"Mantras tune life to the wave lengths of the gods"

"As this spiritual technology becomes perfected its practitioner loses the sense that he is pronouncing the mantra; it is pronouncing itself. Concomitantly he starts hearing the mantra in its 'together form', SOUNDING AT ONCE INSTEAD OF SPREAD OVER TIME. By then the distance between subject & object has virtually collapsed & it seems that the deity itself is sounding in incantations of space & time."

pg 6  
mythology

"passages in a strictly measured tempo (syllabic chant) are ~~introduced~~ <sup>juxtaposed</sup> with long sustained notes where the division of time ceases to be perceptible. Fragments of melody juxtaposed with long stretches of one melody, itself a multiple sound - deep monotone & transcendent overtone within which the sounds of that melody already contained. Sustained monotone glides up out of silence & down into it again. over long stretches of time, the monotone itself rises & falls. Going from time to time less, from melody to sounds in one - from sound to silence - - -"

## Tibetan Chant

"there are instances where a single pitch (with timbre) is unraveled into a perceived chord --"

"What makes the style so fascinating is that to follow the music requires partly an overall reading of a rich, fused sound, and partly a reading of individual pitches. Sometimes a chordal quality + sometimes the "tune" that emerges from the movement between various harmonics predominates."

2 ways of processing

φ I ε a  
φ ε I φ  
I ε φ a  
a ε I φ

A<sup>b</sup> C B<sup>b</sup> E<sup>b</sup>  
A<sup>b</sup> B<sup>b</sup> C A<sup>b</sup>  
C B<sup>b</sup> A<sup>b</sup> E<sup>b</sup>  
E<sup>b</sup> B<sup>b</sup> C A<sup>b</sup>

stevens ps 3 mythology  
"The resonant frequencies of the vocal cavities are called FORMANTS, + there are usually numbered in order of increasing frequency. The formant frequencies are the principle determinants of vowel quality, + can be manipulated by adjusting the positions of tongue, lips + other structures thereby modifying the shape of vocal cavities."

Mphu 10 cps  
Heart 1.2 cps  
Breath 13 cps

"We need to know a lot more about listening for if we are to gain any understanding of major concerns in music."

"Certain sounds may be perceived either as timbre or pitch."

"Chants contain many interpolated syllables - supposedly to render texts meaningless to non-initiates. - those syllables are music, - occasions for timbral nuance on a drone note tone - timbre words - + the musical progression is ordered by + regulated by their sequence."

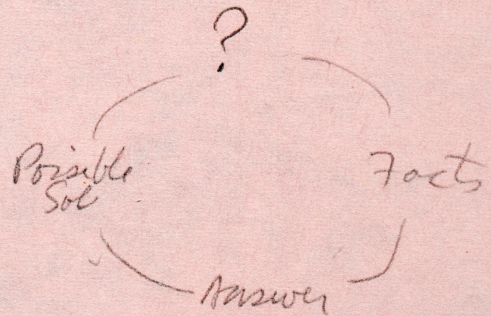
"When semantic constraints are relaxed, syllables + phonetic sequences may be composed entirely for their musical sound properties."

statement of a problem  
Question

Possible  
Solutions

Related Facts

answer



The musical features loudness and highness of pitch tend to attract attention. In the following passages, what part of the music is intended for foreground processing?

Our ability to localize sounds is limited unless we are able to move about. (Licklider 1967) Localization is multisensory.

Auditory space is 3d + Euclidean nearly

Sound images are not very sharply defined

Auditory space is a rather diffuse thing

Auditory location persists after it has been set up

If conditions right, diverse phenomena may meld into a single percept, as single object in subjective space.

Space of much Pop rock etc is non-directional, dense, + pervasive, as tactile as auditory. One listens with one's skin.

Listeners easily confuse the octave in which a pitch is heard

"prior to any associative addition there exists in every tone an intrinsic spatial character which leads directly to the recognition of differences in height & depth along the pitch continuum." Pratt 1930: 282

Three basic parameters of sound are <sup>time</sup> frequency, amplitude and intensity. They are not independent functions are perceived them in constant interaction. Our perceptions are affected by the different function parameters. Which of the orchestrations given below will sound balanced?

Solutions

1

2

3

Related Facts

- a) a loud note will sound longer than a soft one (Intensity - time)
- b) a high note will sound louder than a low note of the same strength. (Frequency - amplitude)
- c) a note of the same strength will appear to grow weaker over time. (Intensity - time)

answer  
 2 will be <sup>best</sup> balanced because of related facts a b + c  
 1. is not so good because of ~~b~~ b.  
 3. is not so good because of b + c

Timbre has two musical functions: carrier and object. The two functions can never be completely separated, only emphasized in different musical situations. Which of the passages below best exemplifies timbre as ~~carrier~~ object?

### Possible Solutions

- 1) Big Ben
- 2) Water fall
- 3) Whale Song

### Related Facts

- a) a single sound has parts
- b) the relation between two notes of different timbre will have elements of contrast & continuity
- c) two or more different sounds in succession can group into a unit if the speed is fast enough & if other conditions, such as pitch range, rhythm, dynamics permit.
- d) contrast is speed dependent. Too many contrasts are compressed into a short time span, the individual contrasts lose distinctiveness and are perceived either as a blur (continuity) or as more or less well defined single percepts. (grouping)

## ISA Problem Format

Statement of problem with question.

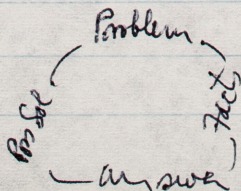
Possible Solutions	Related Facts
<div style="display: flex; flex-direction: column; align-items: center;"> <div style="margin-bottom: 5px;">1</div> <div style="margin-bottom: 5px;">2</div> <div style="margin-bottom: 5px;">3</div> </div> <div style="border: 1px solid black; border-radius: 50%; width: 100px; height: 100px; display: flex; align-items: center; justify-content: center; margin: 10px auto;"> <span style="font-size: 24px;">P</span> </div>	<div style="display: flex; flex-direction: column; align-items: center;"> <div style="margin-bottom: 5px;">a</div> <div style="margin-bottom: 5px;">b</div> <div style="margin-bottom: 5px;">c</div> <div style="margin-bottom: 5px;">d</div> <div style="margin-bottom: 5px;">e</div> </div> <div style="border: 1px solid black; border-radius: 50%; width: 100px; height: 100px; display: flex; align-items: center; justify-content: center; margin: 10px auto;"> <span style="font-size: 24px;">F</span> </div>

Answers

This format can be fulfilled in several ways:

Facts can be collected. Solutions can be intuited. A problem can be stated, <sup>and a question formulated.</sup> ~~one or~~ more solutions <sup>could be</sup> ~~can~~ be <sup>either</sup> intuited, or drawn from the facts, or selected from the <sup>previously</sup> ~~possible~~ <sup>intuited</sup> solutions.

It does not matter which is done first, but, if the format is filled out completely, one way or the other, then both kinds of attention, or information processing will have been employed.





Perceptual tendency to identify a limited number of significant features in any sound heard. (Limited capacity of focal attention.)

Sounds may be classified in the following ways:

- 1 according to physical characteristics (acoustics)
- 2 the way in which they are perceived (psychoacoustics)
- 3 according to their function + meaning (semiotic + semantic)
- 4 according to their emotional or affective qualities (aesthetics)

make a list of most favorite and least favorite sounds.

We can distinguish differences between sound that are only 1.5 milliseconds apart

Attacks are from a few milliseconds to as much as 500 msec. depending on definitions of terms + measurement technique.

A sound has to have a spectral envelope of some sort if we are to hear timbre at all. The time envelope is equally important.

Any tone having a finite length must, according to Fourier analysis, contain more than a single "frequency".

Attack = striking, plucking, breathing, bowing, rubbing

+ "It translates into motor terms with a minimum of cerebral intervention" pg 67 Sound Structure in Music

"Our pitch centered tradition, freezing invariance of melodic motive under transposition, has led us to de-emphasizing the timbre component of pitch." pg 75

pg 76 13 or 14 per second is supposedly fastest speed for pianist or (typist)  
short groups being well under hand probably factor (20 per sec limit?)  
50 msec or 20 per sec = greatest perceptible of discrete sounds.

pg 78 Humans have an echo suppression mechanism in the brain. Why?

pg 80 "Music is notoriously hierarchical"

"Listening to music is an active hierarchical process; therefore, what we hear (understand) will depend both up on the composed relationships & the grain of our listening."

"Hierarchy will function in any music or in any succession of environmental sounds <sup>which</sup> attracts our interest, because it is built into the way we PERCEIVE"

pg 81 "a musical composition is a system in the same way that an organic entity is a system"

pg 82 "Music is pre-eminently a temporal system"

pg 84 Bird song has a very fast time scale but, if birds hear as such the rapid modulation then information content must be tremendous - Contrast with whale songs - we get wrapped up in phrase elements rather than hearing the long phrases

Complex rhythms easier to hear at fast tempo

"attention is likely to be focused on pitch."

Timbre contrasts compared to pitch contrasts.  
Harder to perceive

important  
page  
pg 85  
pg 85

pg 93

Timbre contrasts - attention to effects of tempo, rhythm, dynamics  
accent and pitch

Pitch contrasts (melody/harmony) attention to slips, steps, motives,  
phrases & their articulation.

Timbre has two functions - carrier - object  
the two functions can never be completely separated only  
emphasized in different musical situations.

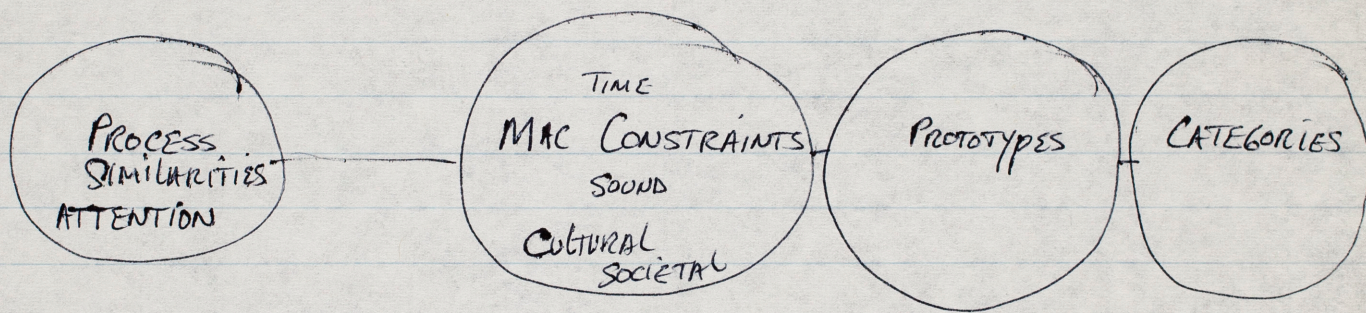
- 1) a single sound has parts
- 2) the relation between two notes of different timbre will have elements of contrast + continuity.
- 3) two or more different sounds in succession can group into a unit if the speed is fast enough and if other conditions, such as pitch range, rhythm, dynamics permit.

Contrast is speed dependent - at faster speeds +  
too many contrasts are compressible into too short  
time span the individual contrasts lose distinctiveness  
and are perceived either as a blur (continuity) [Plenum]  
or as more or less well-defined single percept (grouping).

pg 107 "It is often difficult to know if one is hearing a slight  
change in pitch or a slight change in timbre."

Aug. 31, 1978

"Music is (contextual organization interacting with) attentional elements of information processing, as constrained by our auditory and temporal modalities." Slobin



CONTENT + PROCESS = ACTIVITY

(SOUND + TIME) + ATTENTION = MUSIC

Music is the organized interplay of attention processes with sound and time.

Analysis

Breath

what can be known about breath?

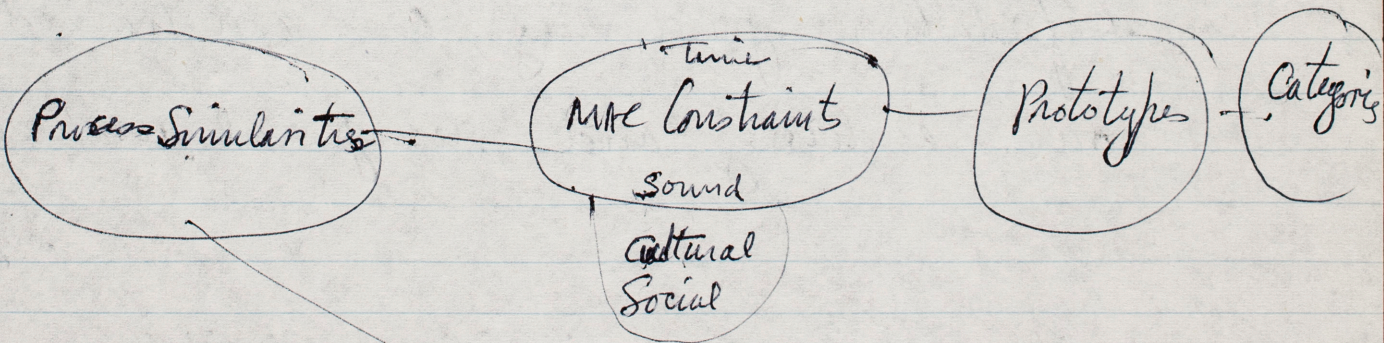
Breath out more focal

Breath in more plenum

Prototypical context

Prototypical process

music is a reflection of focal + plenum processes



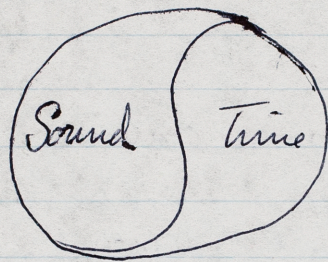
"limits of expression"

Music may come back or feedback to shape time

Matter

is it true? Particle and fields

Sound and time need development of language in order to look back



" music is (contextual & organization interacting with) attentional elements of information processing, as constrained by our auditory and temporal modalities "

Sugden

Processes are prior to modalities

Music has been defined many different ways in different times and different cultures. Definitions shift as <sup>the practices, agreements and</sup> attention of musicians shifts to different concerns. Currently Webster defines music as a) "the science or art of ordering tones or sounds in succession, in combination and in temporal relationships to produce a composition having unity and continuity. b) vocal, instrumental or mechanical sounds having rhythm, melody, harmony."

Music is the organized interplay of sound and time as processed by (human) attention.

Music in its diverse manifestations includes sounds which range from only a few highly selected sounds to any or all known or imaginable sounds. Time relationships in music range from very restricted to any perceptible relationship. Some relationships may only be perceptible on paper.



## The Shaping of Sound and Time

Music is the organized interplay of its elements; sound, and time <sup>with</sup> ~~the~~ ~~head~~ ~~and~~ ~~pleasure~~ ~~attention~~ processes of human beings.

The kinds of sounds and the ways they may be ordered in time, <sup>which make music</sup> might include <sup>or range from</sup> any, or all known sounds, in any perceptible time relationships, ~~to~~ <sup>to</sup> only a few highly selected sounds in

very restricted time relationships. The types of <sup>music, or</sup> organized interplay of sound and time, <sup>attention processes,</sup> called ~~music~~, result from the <sup>practices</sup> <sup>communities or networks of</sup> <sup>musicians.</sup> and agreements of musicians. Musicians are those who participate in the understanding of music through composition, performance, listening\*, or the making of instruments.

Sound is a multi dimensional phenomenon with physical and psychological <sup>characteristics</sup> properties.

Its physical <sup>characteristics</sup> properties are frequency, duration, intensity and wave form. Its corresponding psychological

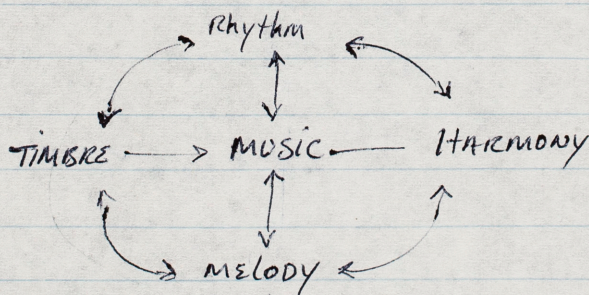
\* Those who listen to music are also musicians since it requires training to understand music through listening.

Its characteristics are pitch, <sup>duration</sup> (rhythm), dynamics and timbre.

The physical characteristics are measurable quantities while the psychological characteristics vary according to the physiology and perceptual filter of

the individual. The perceptual filter is guided by the attention processes, modulated by aesthetics as well as physiology, or physical limits.

The musical prototypes <sup>TIMBRE, RHYTHM, MELODY, + HARMONY</sup> emerge from sound and time.



These prototypes are differently emphasized by in the diverse cultural forms of music.

give examples here

William mix  
Shakuhachi

Bach Choral  
African Drum

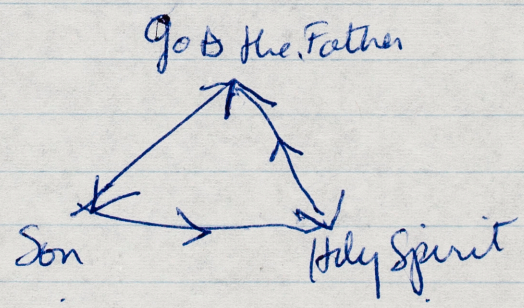
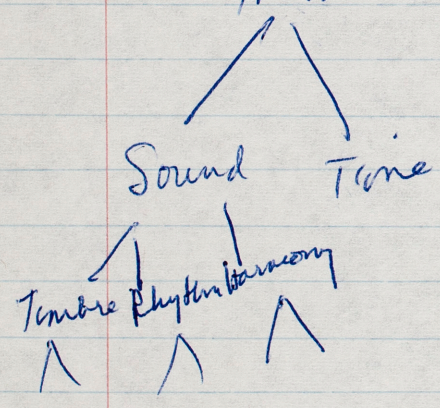
1. Give comparative definitions of "Music" so you can see how yours differs.
2. Sound: What do you mean by sound.  
Time " " " " " Time
3. Define focal-plenum attention processes.

Spend time on Sound (Mother) <sup>n</sup> Archetypes

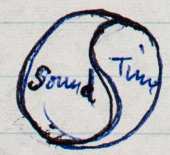
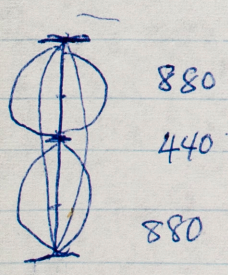
when timbre held constant and pitch changes rhythmically = melody

Time (Father)

↑ Melody in terms of pitch  
Melody in terms of timbre  
Music



Time is contained in sound + sound is bounded by time. Time is the boundary of sound



Music - attention to interrelated sounds.

Sounds are interrelated by attention  
CONTENT + PROCESS = MUSIC

Focal - Being in time is a matter of hearing smaller and smaller differences.

not for performance  
inner directed

Process for composer performer listener  
(+ instrument maker)

Shakuhachi. How is focal attention used. It's on the breath and how the plenum subsides of the next fall of the melody and changes of timbre —  
(Composer performer listener) all one — and maybe makes own instrument.

Have students synchronize breathing with Shakuhachi player as listening exercise.

William's Mix.

Focal is on the method of construction so that the form for the ~~organization~~ materials is plenum — since the listener does not compose the piece the processes are different

Performer absent  
except as operator  
of tape machines  
composer - listener  
separate

Book Coral

Focal attention is on harmony  
Melody rhythm are plenum.

African focal attention is on body feeling or rhythms.  
Plenum: on pattern.

→ Performers focus on parts plenum balance

Listener on words which should be clear from harmonious plenum blend —

African — Composer may be anonymous or master drummer — focus on body feelings of rhythm —  
Listener focus on patterns(?)

what the word means?

## Content

Shakuhachi - What are the prototypes + How are they emphasized?

Harmony absent as simultaneously sounding tones but present in the harmonizing of prototypes.

1. Melody
  2. Timbre
- Rhythm is organic, not metrical.  
Breath is the basis of rhythm in this music. Quality of sound is imp't (timbre) sometimes pitches changes to timbre. Sometimes timbre changes to pitch. But there's no harmony. The range is fairly limited 2 1/2 octaves. The interplay of pitch-timbre extends the expressiveness + seems to extend the range.

Williams mix - What are prototypes.

1. Timbre

2. Rhythm.

Timbre is emphasized. How emphasized? Because there are so many sounds that are ordinarily considered noises mixed with sounds which could be "musical" sounds. The rhythm is determined by the speed of the tape + by the location of the speakers for the 8 channels of sound. And the Cgs definition of music is that music is organized sound + silence. There are no sequences of pitches but rather sequences of timbres. Therefore timbre + rhythm are the prototypes which are emphasized.

Melody absent as sequence of pitches but present as sequence of timbres.

Bach Choral: What are prototypes?

1. Harmony

Melody

Rhythm.

How is harmony emphasized. By simultaneously sounding tones + the chorals are always in 4 parts. Limited range - Smooth timbres - Melody is submerged in the harmony + serves it. and rhythmic supports the

Timbre is held constant but is often unspecified.

tensions + relaxations of the harmonic directions.  
The complexity of the harmony is supported by Rhythm  
African Drums -  
~~Back Choral.~~

What are prototypes -

1. Rhythm.

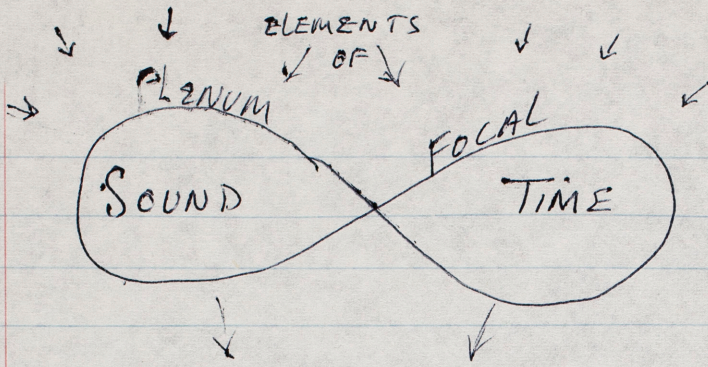
2. Timbre.

How is rhythm organized? Rhythm is complex  
many different rhythms simultaneously,  
Timbres are held constant but the  
timbres emphasize the different rhythms  
which are sounding simultaneously so  
timbre supports the complexity of the  
rhythm, whereas in the case piece  
the rhythm supports the complexity  
of the timbre.

Melody absent  
as sequence of  
itches or timbres  
Harmony  
absent as  
progression  
of chords  
but present  
as simultaneous  
soundings.

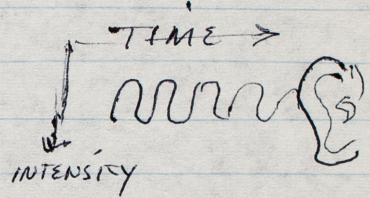
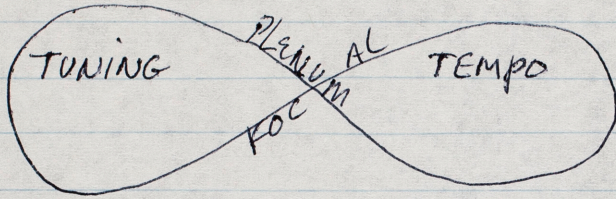
MIC

MFC



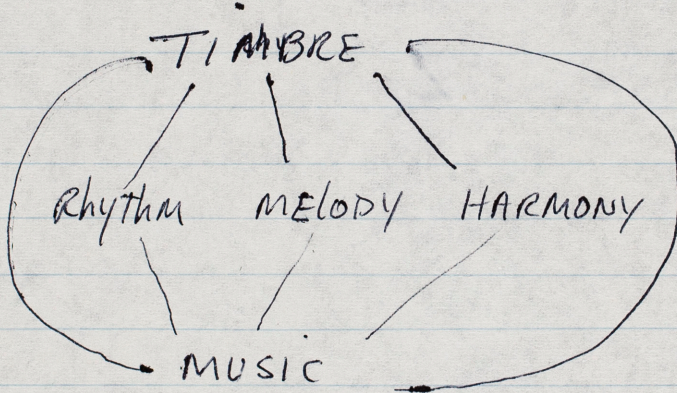
CONTENT + PROCESS

PROTO TYPES



COLLECTOR  
INTERPRETER

MAC



" Music is ~~the~~ contextual <sup>organization interacting</sup> processed by <sup>processing</sup> with the attentional elements of information, <sup>primarily</sup> ~~processed~~ <sup>interpreted</sup> by the auditory modality. "



## Webster Sound & Time

**Time:** the measured or measurable period during which an action, process, or condition exists or continues.

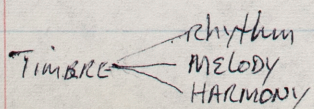
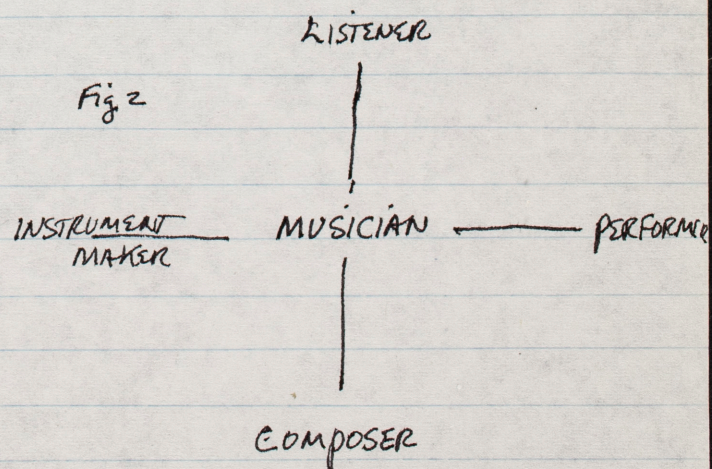
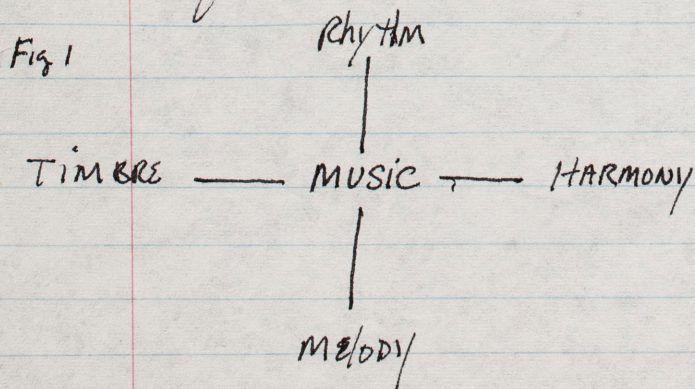
**DURATION:** a continuum which lacks spatial dimensions and in which events succeed one another from past through present to future.

**Sound:** is the sensation perceived by the sense of hearing  
↳ A particular auditory impression; **tone c:** mechanical radiant energy that is transmitted by longitudinal pressure waves in a material medium (as air) and is the objective cause of hearing.

According to Sngber's attention theory, there are two ways which information is processed: Through focal attention which is sharp in detail, is a limited capacity and linear and through plenum attention, which is more global, of unlimited capacity and non-linear.

Musicians can benefit from awareness of these processes and how they operate in the performance, composition and listening to music.

First we need a few maps to define the territory:

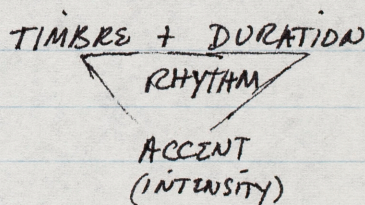
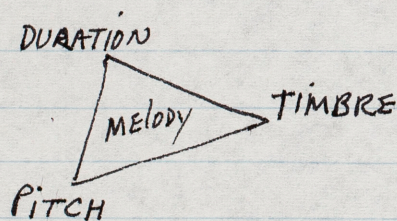


TIMBRE IS EVERPRESENT - THE MOTHER OF MUSIC  
 TIME IS THE FATHER

Music is the organized interplay of its elements; <sup>plenum</sup> sound and <sup>focal</sup> times.

A musician is one who participates in the understanding of music through composition, performance, listening, or the making of an instrument.

What constitutes a musical community? a network?



Pitch

DURATION

TIMBRE

INTENSITY

How the elements of music are organized determines its form. The forms of music vary greatly within and across cultures.

In some music the focus is on melody for instance South Indian singing, or on rhythm as in African music or harmony as in 18th + 19th century Western European music or timbre as in some late 20th century American music.

You might say that focal attention is absorbed in one element while plenum attention fills in the spaces with the other elements.

## Primary goals of Physics includes

1. finding the smallest particle of matter,
  2. discerning an underlying order of the many particles,
  3. determining if there is one fundamental force unifying the 4 different forces (electromagnetic, gravity, nuclear fission, nuclear fusion)
  4. achieving nuclear fusion to end world energy shortage.
- matter - solid liquid gaseous Plasma (hot gas)

## Musical Analogy

1. finding the smallest musical unit
2. discerning an underlying order of these units
3. Is there a single unifying direction for all music?
4. Integration of world music.

Plenum sense is filling in the spaces between focal templates.

If certain pitches represent focal <sup>content</sup> schema - then going between these can invoke the plenum mode -

Reflection of two attention systems

Activity = content + process (attention)

Explain the exercises in terms of attention but explain also in terms of content.

Make exercises in both the mental + physical -

Establish reference in tuning

Context determines the process - or interplay

Pitch sense - why do some people have it others less?

What is natural? What processes are natural and applicable to musical processes.

What are natural musical responses.

Holistic Analysis  
Holism deals with person analysis deals with content.

Tuning as product of system.

Nature of techniques helps to define the correct tunings for the system.

MIC

MEC

Sensory levels -

Old rituals + meditations have evolved ~~to us~~ as natural manifestations.

Ears might have natural resonances -

Processed without higher structure -

Natural resonances of sensory modalities -

might ~~may~~ reflect sensory needs or emotional or attention needs

Timbre as units

Taking a "long time" for timbre - pulls you in or draws you out -

Surprise sounds probably open you up (Single Timbre)

Mic genetic has environmental training

Find similar sounds people can respond to cross contexts.

OM (has a natural resonance(?)) content schema naturally pulls you in

Room to move in a timbre

What are these natural sounds or genetic prototypes?

Timbre

arche types versus well trained prototypes

Attention expressed in different modalities  
What is at the primary level -

Machine prototypes — those which are not in tune with natural sounds, or sounds which are natural to people —

Find prototypes that reflect those processes

Similar content schema — confuse process & content.

⊕ Processing archetypes what do they do

Rock represents the perverted soul of the mechanistic world NOT the soul of the people.

Components of "native" sounds — fed into the computer then all of the operations carried out on those natural sounds —

→ We are made to synchronize —

Projection of inter

Creativity in search of a technique

Limits of tempo: Fast tempo may tend to divide down into slower beats  
Slow tempo may subdivide into faster units

Beethoven's voice example



## Issues in Music

### Scholarly based performance

"The performance of a work in terms of the knowledge we have about it today is not only a problem of integrity for the art form; it is also a problem of integrity for the performer."

"Any teacher in a Univ. must be the creator of new experiences for himself, which he share with others."

"The ways in which we may learn to remember & reorder a series of sounds depend upon our means of access to the series - the quality of our attentiveness on those occasions when we listen to or play along with the performers."

"A general concept of density seems to require the development of techniques for shifting our attention between rhythmic & timbral frameworks."

"The way in which musicians <sup>listeners</sup> learn within particular traditions to respond to musical & social demands."

"The great proliferation of techniques & styles in our century creates a problem for performers & audiences in conceptions and techniques."

"In some styles ("aleatory, indeterminate") the beat, <sup>as integrating unit</sup> has been replaced with "larger sequences of time" (such as intervals of 15 secs.) or the initiating of events."

631 S. Mt. Vernon Ave.  
San Bernardino  
92403  
Pasadena  
SB Valley College

Rottenbach  
~~9710~~  
12.9.17 So  
Vernie  
Milwaukee  
0705  
97222  
503-654-4756

each receptor responds best at one part of spectrum, but is also sensitive to others, + since the tuning curves overlap so that entire spectral range is sensed, all regions including the areas of overlap can be distinguished. Since each receptor responds best at one part of the spectrum but is also sensitive to others, + since the tuning curves of each overlap so that the entire spectral range is sensed, all regions including the areas of overlap can be distinguished if the information from all receptors is combined + integrated neurally.

there is for each receptor a best stimulus + a range of secondary stimuli. Various degrees of overlap of activity spectra. When more than one receptor is stimulated, patterns of neural activity involving multiple fibers are transmitted to the central nervous system.

"is a pattern a simultaneous reading of several labeled lines providing a mixed experience or is it a mixing providing a unique experience?"

receptor specificity  
width of tuning curves  
points of max sensitivity

Absolute threshold  
Time course (adaptation) of response  
capacity of receptor to engage in synergistic + inhibitory interactions with multiple compounds,

"not only may receptors adapt at their own characteristic rates to the same compound but receptors with different specificities may also adapt at different rates to their respective best stimuli. As a consequence a receptor which is making a maximum contribution to a pattern during the first moment of stimulation may be contributing only minimally a second or more later.

write out major issues in music now - things that every one agrees - Fundamental questions

In other words establish a context in which the exercises address such issues.

make composition + performance one but not inside a machine -

Some contemporary music has addressed the problem by making the composer/performer the computer.

The traditional separation of composer/performer

Oriental disciplines have manifested & existed without analysis just because of the exercises.

Demonstration as a viable teaching & learning tool.

treat every objection as a request for more knowledge - what kind of knowledge is needed.

Yester's exercise

Exercise: sense pulse, tap with foot skip a foot tap at the top and bottom of breath.

Try again counting 4 in 4 out. which is easier.

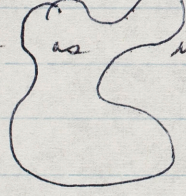
Insert exercises which tie up attention - adding to the exercises sometimes makes them easier.

# How do attention processes work in group?

Can a group have focal attention as a group?  
 What happens if one person slips?  
 Each person has to be limited capacity + (focal) in order to draw upon the group energy - (rather than depending on the group)  
 The exercises utilize the group as focal template

7+2 MACS

"number of receptors determines size of window looking out at the world - <sup>other tastes, other worlds.</sup> ~~world of taste~~ Science July 1978 "The width of the tuning curve of each receptor as well as the point (compound) to which it gives its maximum response determines the resolution of the window. The width could be broad or it could be narrow as implied by the generalist-specialist doctrine of olfaction."



what sensitive to  
 How many things  
 sensitive to  
 character of tuning  
 curve

"In a heterogeneous world, each animal would accord unique values to different segments of that world. As a consequence, the behaviors, other things being equal, would also differ."

Shift modalities

- Somatic
- Auditory
- Visual

- Small motions
- Large motions

Tempo exercise

Device for measuring change in rate for tempo test.

What loading or overloading is.  
 How to get people to "chunk" information

Talk while keeping tempo with foot.  
 Write while keeping tempo with vocal sound

- Improvisation
- 3) infinitely branching 2 person combination
  - 2) 1 person imitating imagination
  - 1) reaction between you + your imagination

Focus:

1. a point at which the rays (as of light, heat or sound) converge or from which they diverge or appear to diverge. Specifically the point where the geometrical lines or their prolongations conforming to the rays diverging from or converging toward another point intersect and give rise to an image after reflection by a mirror or refraction by a lens or optical system.

adjustment for distinct vision. also - the area that may be seen distinctly or resolved into a clear image.

c) a position in which something must be placed for clarity of perception. To bring issues into focus -

a center of activity or attraction or attention

having or giving the proper sharpness of outline due to good focusing.

Take the down middle upper blocking sequence from Kata compare with a tempo rhythm exercise -

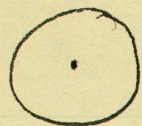
Time scale?

Awareness <sup>Focus?</sup> → imagination <sup>Focus</sup> → concentration <sup>Focus</sup>

What is the time scale of focus to focus?

"The theory of imagery is embedded in a more general account of perception, defined as the pickup of information which specifies properties of objects or events (or of the perceiver himself). Perception requires active anticipatory SCHEMATA that are attuned to this information, & can direct explorations to make more of it available. Newly acquired information alters & sharpens the schemata themselves, thereby producing additional exploration and more information pickup. This is the perceptual cycle.

June 1, 1978



Metaphor — man in space.

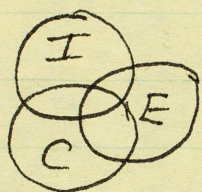
Sees whole of earth only by orbiting.  
Half of whole is always invisible experientially.  
Whole can be visible only conceptually.

Stages of music

Innovation

Elaboration

Culmination



The whole of music from origin to conclusion would reflect those stages.

The whole of a period in music might reflect one of those stages.

The whole of a composer's work might reflect those stages or one of them.

The whole of one piece might reflect those stages or one of them.

There are periods of innovation, periods of elaboration and periods of culmination. There are overlaps as shown in the Venn diagram. This whole is probably reflected from the smallest units of music through the largest possible view of music as a whole.

Blockings pg 101 universals in music

"There are other aspects of the Venda musical tradition which are forever changing and which cannot be learned except by total participation in Venda society & by unconscious assimilation of the social & cognitive processes on which the culture is founded. These are the deep structures of Venda Music (---) they are structures in a dynamic sense, in that they include the potential for growth & development, and so they might better be described as processes (--- they are the source of creativity in Venda music."

underlined is the invisible part of the whole.

Are certain deep psychological structures universal?  
Identical for both production & reception?  
What features <sup>of human behavior</sup> if any are peculiar to music?

"Universal should be sought in the various behaviours associated with sound phenomena not in the unimmanent structures."



"The process of understanding & engaging in musical behavior may be more universal than the content of musical knowledge or action." Dan Harwood



Bruno Nettl - On the question of Universals

"each culture its own music, distinct from all others, derived from its own history, value structure, & types of social relationships yet we search for musical universals."

Charles Seeger

Mieczyslaw  
Kolinski

Problem: The phenomena is diverse, yet we identify music in its diversity.

also

Determinants:

Contemporary  
Music and  
Music of other  
Cultures

Social context

Extra-Cultural view

Cultural view

Hamm  
Nettl et al

Belief: All cultures have music.  
The features which make music recognizable are its universals, in a sense. But what are these features?  
What are the characteristics found in every unit?

Music - a repertory held in common by a population which also shares a language & cultural traits, music which is homogeneous in style, and which is capable of extension by the creation of new pieces for which composers draw on a common vocabulary. --- are there traits that are shared by all musics, even though they may not appear in each utterance of each of the many existing musics?

All cultures have singing - chief interval rough major 2nd  
Tendency to descend at end. - internal repetition -  
variation - All have rhythmic structure (note lengths &  
dynamic stresses)

"Music transforms experience" David McAllester

Association with supernatural - (Language to communicate with  
spirits Music to communicate with Gods)

The less truly universal a characteristic is, the less complete  
its distribution throughout the world and a culture.

Probably then dealing with phenomena of culture per se.  
taught by people to each other. Sparser the distribution,  
the more recent the phenomenon.

### Blacking

"conviction that music can transform experience, heighten  
consciousness, induce ecstasy, or even cure sickness is  
Perhaps universally held."

Hall pg 74 Beyond Culture

"infants will sync with the human voice regardless of  
language, they later become habituated to the rhythms  
of their own language & culture. --- view the bond  
between humans as the result of participation within  
shared organizational forms - Humans are tied to  
each other by hierarchies of rhythms that are culture  
specific & expressed through language & body movement.

June 9, 1978

No matter how whole there is always the invisible. We study the visible to make the invisible visible.

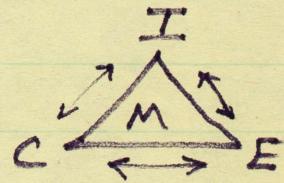
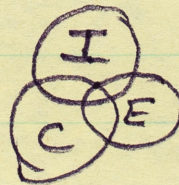
Having said that, what have I said?

As the perceptible expands, that which was formerly invisible, becomes visible.  
x x x

Stages of music:

Linear conception = INNOVATION, ELABORATION, CULMINATION  
cyclic conception =

INTEGRATION  
of linear + cyclic



x x x

DURATION

Definitions — Rhythm = change (in time) of durations of sounds and silences <sup>and repetitions</sup>

FREQUENCY (AMPLITUDE)

Melody = succession of pitches (one or more)

FREQUENCIES

Harmony = simultaneous sounds.

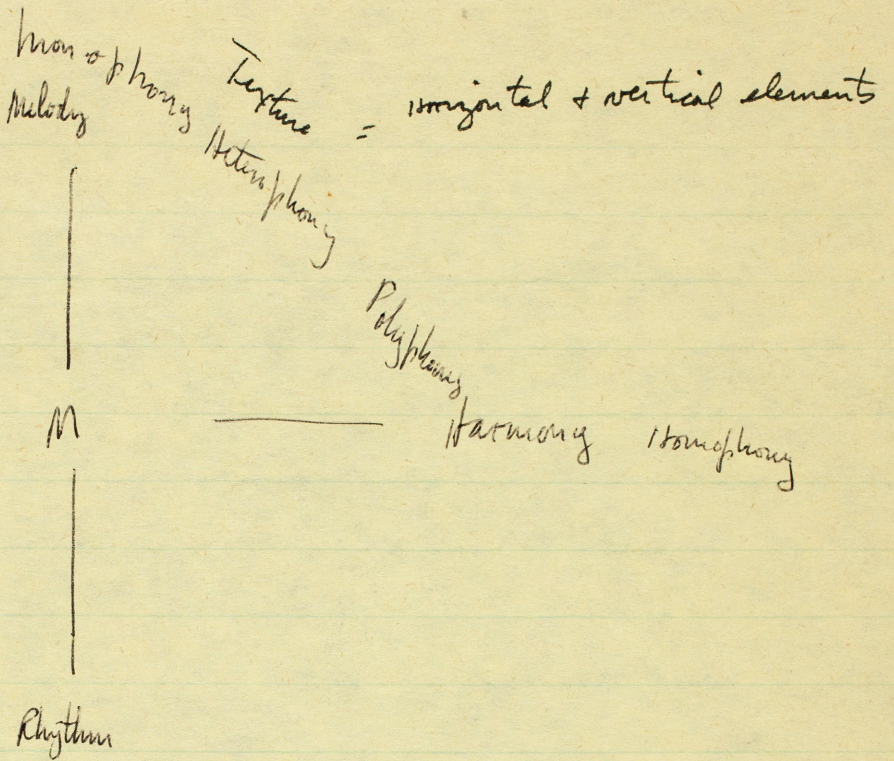
WAVEFORM -

Timbre = sound quality

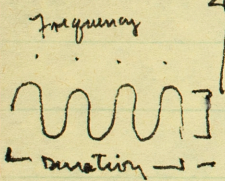
Music = the interaction <sup>in space/time</sup> of one or more of these elements

Debussy - le temps rythmisé  
 "a flexible sound amalgam in which timbre, texture, rhythm melody, harmony are all equally important as structural and expressive elements."

Timbre



Physical Properties of sound



- Frequency - Pitch
- Intensity - Loudness
- Duration - Length
- Wave form - Timbre

- Variations or interactions
- Reflection (echo)
  - Reverberation (Series of echoes)
  - Resonance (Sympathetic Vibs)
  - absorption
  - Refraction (cool air/warm air)

Expression Dynamics - Character or mood  
 (no marks before 1500) (Earliest expression marks found in solo literature)

Speed varies with medium and temperature

Harvard Dictionary Definitions

Harmony of melodies

Melody = "a succession of musical tones"

Harmony = "musical tones sounded

simultaneously

Rhythm = "whole feeling of ~~motion~~ movement in music, with a strong implication of both regularity and differentiation."

Timbre = the quality of a tone as produced on a specific instrument, as distinct from the different quality of the same tone produced on different instrument

Melody as melody  
 "Melody as surface of harmony"

Tonality = Key center (loyalty to a tone)  
~ Melodic tonality  
Harmonic tonality

Modality - Type of scale

11/11/53

Perceptual grouping in audition

Dominic Massaro : Perception vol 6 pg 541-553

"the perceived dimensions of voice pitch & spatial location can be thought of as similar to the perceived dimensions of color & spatial location in vision. The visual figure is supposedly seen more clearly & in front of the ground. Analogously, the auditory figure is heard more clearly & may be experienced as being nearer than the background noise."

Pitch differences need to segregate different melodies heard simultaneously.

Phenomena "Two or more independent sequences of tones are heard more readily than a single sequence of tones changing in frequency." "Frequency differences & rate of presentation is critical for the phenomenon..."

## Focus -

When all variables are adjusted, a lens can be said to be "in focus" when the sharpest clearest image is present. While I write this I am focused visually on the writing, at the same time I am aware of the whole visual field even though it does not appear as clearly as the writing.

Focus has to do with capacity, forces and relationship to target.

Bringing the whole body to maximum momentum

{ Life in focus  
group in focus  
universe in focus

John Blacking described music as humanly organized sound. He argues that one should look for relationships between patterns of human organization and the patterns of sound produced as a result of organized interaction. . . . the production of the patterns of sound which the Venda call music depends first on the continuity of the social groups who perform it and second, on the way the members of those groups relate to each other.

Blacking is convinced that at the level of deep structures in music there are elements that are common to the human psyche, although they may not appear in the surface structures. This makes cross cultural communication possible.



# Holistic Analysis

Comparative studies of diverse musics of the world and natural environments, including the music of animals ~~species~~ and non-western well as man and the cultural environment. Utilizing the mandala as an analytical tool. Seminars will consist of discussion and projects, <sup>and a research paper.</sup> Prerequisite Analysis 2?? and consent of instructor.

## Holistic Analysis

Comparative studies of diverse musics of the world, including the music of animals and natural environments, as well as man and the cultural environment. The mandala

will be utilized as an analytical tool for <sup>proceeding from the whole to parts</sup> Seminars will consist of lectures, discussions, exercises and projects. <sup>A research paper will be required.</sup> Prerequisite Analysis 2?? and consent of instructor.

Thunder  
wind  
dream  
see

1. Explication of the mandala and its application to music.
2. Mandala meditation  
a. map of world musics showing emphasis
3. Listening exercises.
  - a. Group consciousness
  - b. Left Hemisphere
  - c. Right Hemisphere
4. Presentations

Texture

monophonic

Homophonic

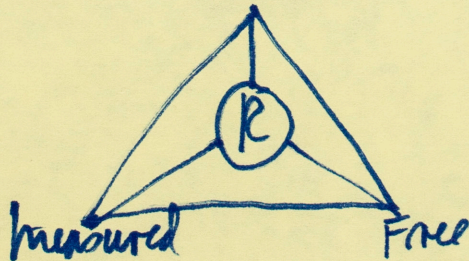


Heterophonic

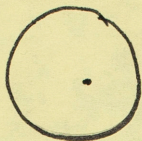
Polyphonic

Rhythm

metrical



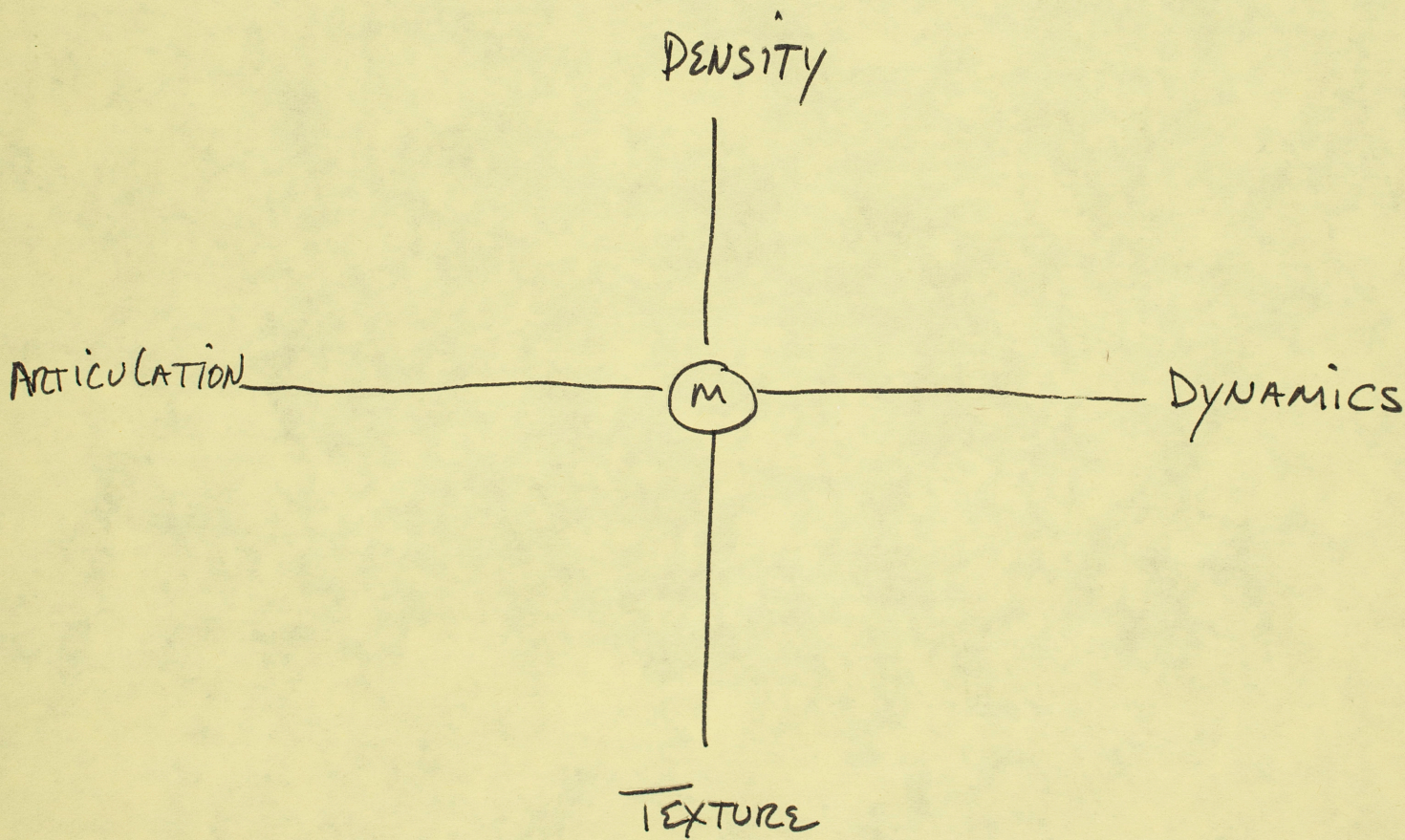
Density



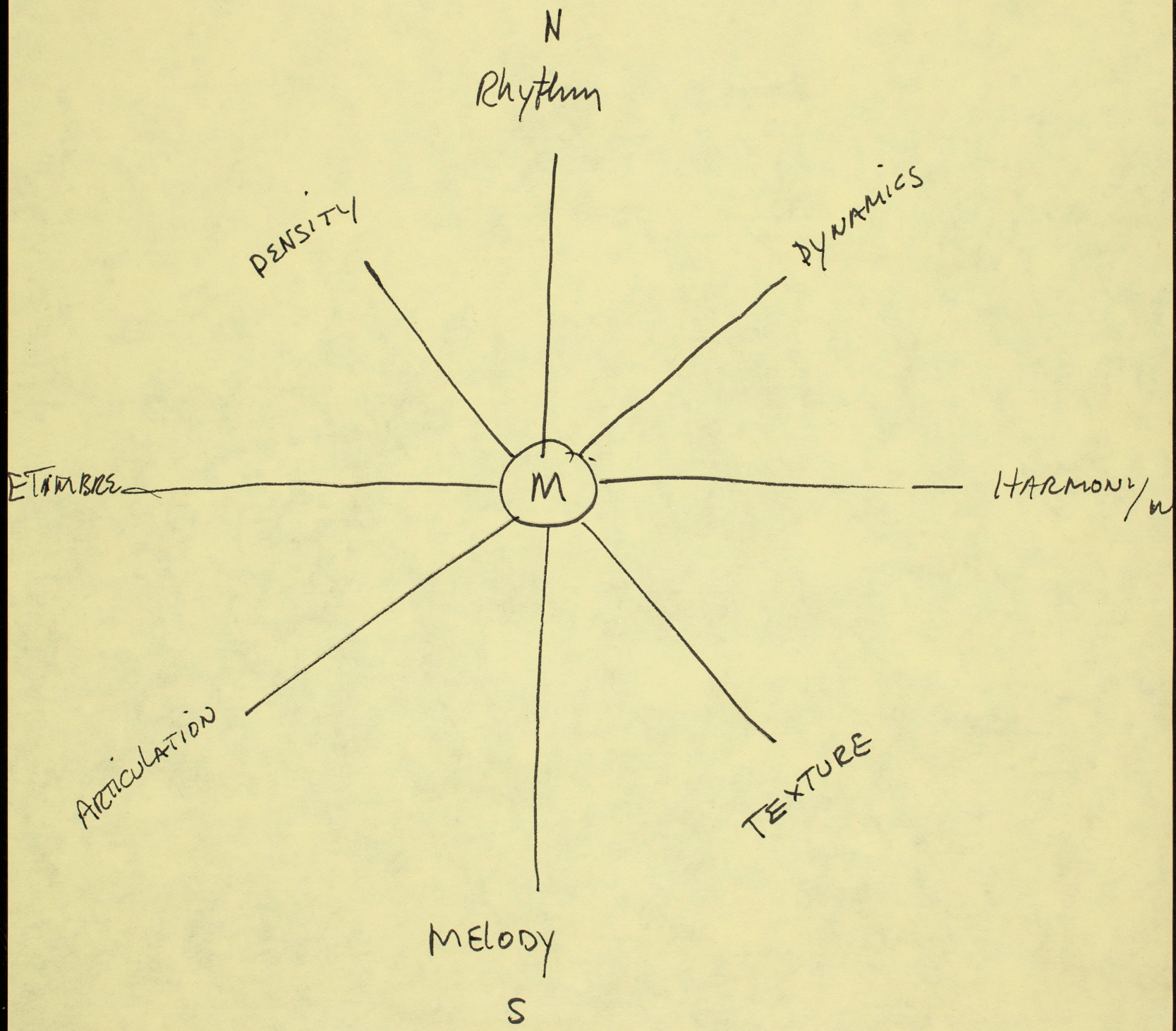
thick  
thin

FREQUENT    MANY  
IN FREQUENT    FEW

ARTICULATION - DYNAMICS



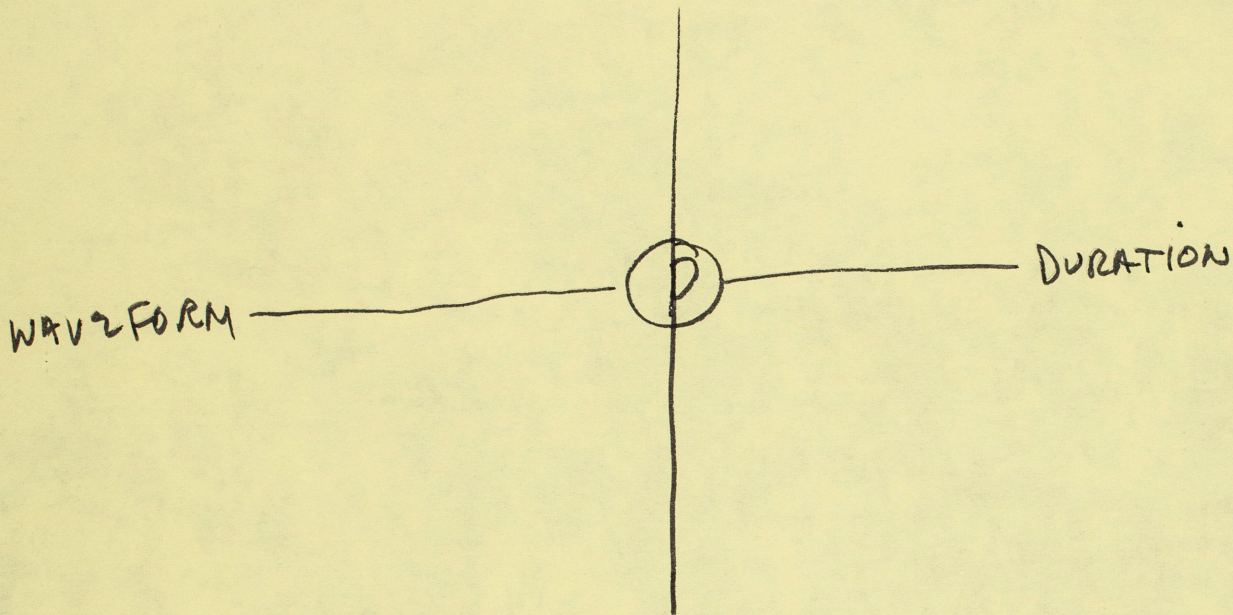
" MUSIC IS THE ART AND SCIENCE OF ORGANIZED SOUND "



THE ABOVE DEFINITION IMPLIES THAT THERE IS DISORGANIZED SOUND. ORGANIZED SOUND HAS TO BE REFERENCED AND ELABORATED.

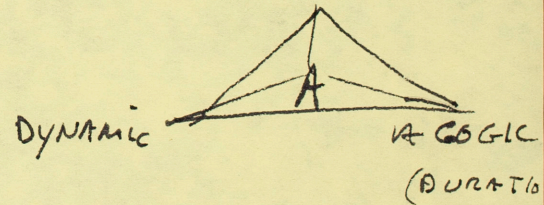
# Physical Properties

FREQUENCY



AMPLITUDE

ACCENT  
TONIC (RITCH)



MELODY  
CONTOUR

CONJUNCT

MOMENTUM

ASCENDING

DESCENDING

THRUST

RELEASE

DISJUNCT

MEL

# TYPES OF MOTION IN CONTRAPUNTAL WRITING

