

Sound Education

This part gives insight into theories which played a role in our seminars and which generated our project and its outputs. It also offers a worksheet for lower and higher education, i.e. *giving some guidelines (□) on how this website could be used as a tool for educators.*

Sound vs. Music

Sound is everything we hear, that our ear processes, and that is physically measurable. Sound can be noise, music, or language. The English word “sound” is a synonym for a “complex tone”, i.e. a composition of several tones emanating from[?] the same sonic source, whereby a single tone is a sound with an oscillation progression in sinus form. The German equivalent of “sound” is “Klang”. “Noise” is a sound of which intensity (measured in Decibel (db)) and pitch (measured in Herz (Hz)) constantly varies. Noise in its sense as “Lärm” designates “unwanted sound”, whereby this classification is not physically defined but subjective.

The perception of sound as “music” is subjective and varies not only from culture to culture but even from individual to individual. Music is a perception pattern produced in our brain. It is an impression.

Teachers might play some of our Rostock sound examples to their students and ask them if they sound like music to them (higher education).

Soundscape

We used the term “soundscape”, following Raymond Murray Schafer, as “sonic environment” (dt. Klanglandschaft) referring to the actual environment as well as musical compositions when considered as environmental, i.e. in our case street musicians and the recording of musical groups who are especially present in Rostock festivities (Schafer 1994 [1977]: 274). Our simplified definition of “soundscape” is “seeing through our ears”.

Teachers might play some of our Rostock sound examples to their students and ask them what they see when listening to it (higher and lower education).

Sound event and sound object

A sound event is, according to Schafer, the smallest self-contained particle of a soundscape, a symbolic, semantic, or structural object for study, and therefore a nonabstractable point of reference related to a whole of greater magnitude than itself. It can further be divided into sound objects (*objets sonores* (Pierre Schaeffer)) which are the smallest self-contained particles of a soundscape analyzable by the characteristics of their envelopes. Pierre Schaeffer describes them as “objects for human perception and not mathematical or electro-acoustical objects for synthesis” (Schaeffer cit. in *ibid*: 274). A sound object can be referential (bell, drum etc.), but it is primarily considered as a phenomenological sound formation, independent of its referential qualities as a sound event.

Teachers might play the example “101113-Heiliggeistkirche.church bells” to their students and discuss the difference between “sound event” and “sound object” (higher education).

Soundwalk

R. Schafer differs between

) a “listening walk”, a walk concentrated on listening to ideally all surrounding sounds and

) a “sound walk”, an exploration of the soundscape of a given area.

Although we at first had to listen to as many surrounding sounds as possible, we tried to extract unusual sounds and ambiences along the way during our walks in different districts of Rostock. The maps on this website show you the trajectories of our soundwalks and show where we encountered interesting sounds.

Teachers might take their students to a walk with closed eyes through their school/university and switch the focus from a “listening walk” at first to a “sound walk”. After the walk, students write down what they heard in their listening walk and then in the sound walk (higher and lower education).

Acoustical ecology

Acoustical ecology deals with the relation between sounds and the environment. It studies the effects of “noise pollution” on the environment and living organisms. Noise pollution is a topic of public concern and people should become aware of cleaning the sludge out of their ears in order to regain the ability to hear clearly (clairaudience) (ibid: 271, 11). When people gain the power to influence decisions as to which sounds they want to preserve and which sounds are needed for a pleasant environment, they become sound-designers, and can therefore consciously design their environment in terms of acoustics. Questions that are raised by R. Schafer are: Do we still have the possibility to block out unwanted noises and unwanted messages transmitted by many sounds around us (e.g. TV, Internet, publicity, ambience sounds in establishments)? Would quality of life decline if we scaled down the noise level?

Students might read through our personal reflections and extract the examples for noise pollution in Rostock. They discuss in which ways they could act as sound-designers (higher and lower education).

□ *Students might write an essay on the following questions: Do we still have the possibility and/or ability to block out unwanted noises and unwanted messages transmitted by many sounds around us (e.g. TV, Internet, publicity, ambience sounds in establishments)? (higher and lower education).*

Ear cleaning

In order to attain exceptional hearing ability particularly with regard to environmental sounds (clairaudience), R. Schafer suggests a systematic programme for training the ears in his books *Ear Cleaning* (Schafer 1967) and *A Sound Education* (1992, German version *Anstiftung zum Hören* (2002)).

Pedagogy of listening (Campbell)

Hearing ability is also crucial to music education. Patricia Campbell, ethnomusicologist and music pedagogue working at the University of Washington, speaks for a pedagogy of listening which leads young people into deep-listening experiences with music/sound.¹

Through deep-listening experiences together with a pedagogy of listening, students are introduced into the nature of sound/music and its functions. By becoming aware of their own aural culture, students might also become more open to the music of other cultures,

¹ Whenever Campbell speaks about music, BA has added the term sound, too as she thinks it is as relevant as music in a pedagogy of listening.

might gain the ability to identify sound sources, and might develop musical understanding and performance skills through listening.

As a first step in such pedagogy, teachers would set up exercises with a listening focus such as recognizing the features of certain sounds, musical genres and styles (rhythm, pitch, form etc.).

Teachers might play the example “101113-Kröpeliner Straße, C&A.Street Musicians” to their students and ask them the following questions:

- *How many singing voices do you hear?*
- *Which instruments are played? (higher and lower education)*
- *Teachers might play the example “101111-KTV_cobbling stones” and ask their students to identify all sounds they are hearing (higher and lower education)*
- *Teachers might play the example “101130.Marienkirche.Astron.clock.4pm” and ask their students*
 - *how many times the same note is played by the clock in the beginning (lower education) and*
 - *to transcribe the melody played by the clock repeating the recording several times (higher education).*

Step two would then be what Campbell calls „engaged listening“, i.e. that the students participate in the sound/music.

- *Teachers might play the example “101111-Universitätsplatz_street musician” and ask their students to sing along with the trumpet for the first time and along with the accordion for the second time. Then the teacher might suggest a percussive accompaniment to this music which will be performed by all students or part of the students while the others sing the trumpet melody (higher and lower education).*
- *Teachers might play the example “110122-Ostseestadion.football game” and ask their students to stand up when hearing the loudest part of the recording and then to sing along with the melody of the music they hear in the end of the recording while clapping the hands to it (lower education).*

As a third step students would then try to imitate the sound/music accurately.

- *Teachers might play the example “101130.Marienkirche.Astron.clock.4pm” and ask their students to sing the melody of the clock. (higher and lower education)*
- *Teachers might play the example “101125-Informatikzentrum.electric door” and ask their students to imitate the sound of the opening and closing electric door. (higher and lower education)*

Sound education (Schafer)

In his book *Anstiftung zum Hören. Hundert Übungen zum Hören und Klänge Machen* (dt. Version 2002, orig. *A Sound Education. 100 Exercises in Listening and Sound Making*, 1992, Ontario: Arcana Editions), Raymond Murray Schafer sets exercises for aural perception and imagination at the beginning, for sound production in the middle and for reflections on sound in day-to-day life and society at the end of the book.

The steps of his sound education are:

- 1) Becoming aware of the sonic environment
- 2) Proper hearing
- 3) Participating in the music of others
- 4) Making music (from scores or imitation)
- 5) Arranging and improvising

Exercises using examples from our sound map

note: teachers might find the appropriate out of a bit more than 100 examples from the sound map on their own.

SOUND PERCEPTION AND IMAGINATION

- 1) Try to identify all sounds you are hearing on that example.
- 2) Compare your perception with that of your colleagues.
- 3) Try to identify the sound source of the audio example.
- 4) Try to identify the duration of the sounds you are hearing on the example: are they repeated, constant, or single?
- 5) Try to identify hi-fi and lo-fi sounds on the example (hi-fi and lo-fi explained in part “sound studies”)
- 6) Tell which sounds in the example are loud, silent, pleasant, unpleasant, moving, fixed, near, or far away.
- 7) Tell which sounds are produced by humans, nature, transport vehicles or industry.
- 8) Compare the sound of the examples “101121-Chocolaterie”, “101121-harbour.GreekRestaurant”, “101113-Kropeliner Straße. Outside O&H”, “101113-KTC entrance.Shops and Shoppers” and “110122-Galeria Kaufhof” and discuss which sounds are typical for what kind of establishments.
- 9) What do you associate with the sounds you hear?

SOUND WALK

Make our audio sound walk while looking at the map. Try to identify which was the quietest, the highest, the deepest, the loudest, the most moving, and the most unpleasant sound you heard. Can you repeat any rhythm you heard? Which is the sound you remember the best?

DRAWING SOUND

- 1) Try to draw the sound (event) you are hearing on the example.
- 2) Which colours do the different sounds have?
- 3) Which forms do the different sounds have? The teacher can set some forms on the blackboard such as stars, clouds, circles, rectangles etc.

SOUND PRODUCTION

- 1) Try to imitate the sound you hear with your voice.
- 2) Try to find syllables to imitate the sound you hear.
- 3) Try to remember the pitch of the sound until the next class.

GETTING TO KNOW ROSTOCK

- 1) What time of the day might this sound occur?
- 2) Which sounds help you identify the season?
- 3) Which sounds help you identify the 21st century?
- 4) Which might be sonic emblems of Rostock?
- 5) Which sounds might differentiate Rostock from other cities?
- 6) Which histories do these sounds have?
- 7) When and where can these sounds be heard?

- 8) Do you think that these sounds will still be heard in the future?
- 9) How are these sounds perceived by people?
- 10) Try to tell the story that these sounds tell.
- 11) Try to compare the video and audio of a certain sound event. Listen to the audio first and write down what you hear, then watch the video and write down what you see. Discuss the issue of visual and aural perception with your teacher.

CLASS PROJECTS

- 1) Compare the sounds of different cities concerning their noise level. Use the web links to other soundscapes projects indicated in our bibliography for this.
- 2) Try to find out about the noise pollution laws in your home town and think about how your class could contribute to these laws.

EXTRA EXERCISE

Listen to all the audio examples and find out on how many of them you can hear church bells.

DISCUSSION

“Man fears the absence of sound as he fears the absence of life” (Schafer 1994 [1977]: 256).

Try to answer these questions:

- Does absolute silence exist?
- What would you hear being in a completely soundproof room?
- Listen to the piece 4'33 composed by John Cage and discuss it with your class.

[...] all research into sound must conclude with silence [...]

Can silence be heard? Yes, if we could extend our consciousness outward to the universe and to eternity, we could hear silence. Through the practice of contemplation, little by little, the muscles and the mind relax and the whole body opens out to become an ear. When the Indian yogi attains a state of liberation from the senses, he hears the anāhata, the “unstruck” sound. The perfection is achieved (ibid: 262).

Please also download the attached exercise guide for schools (Sekundarstufe I und II) in German.

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