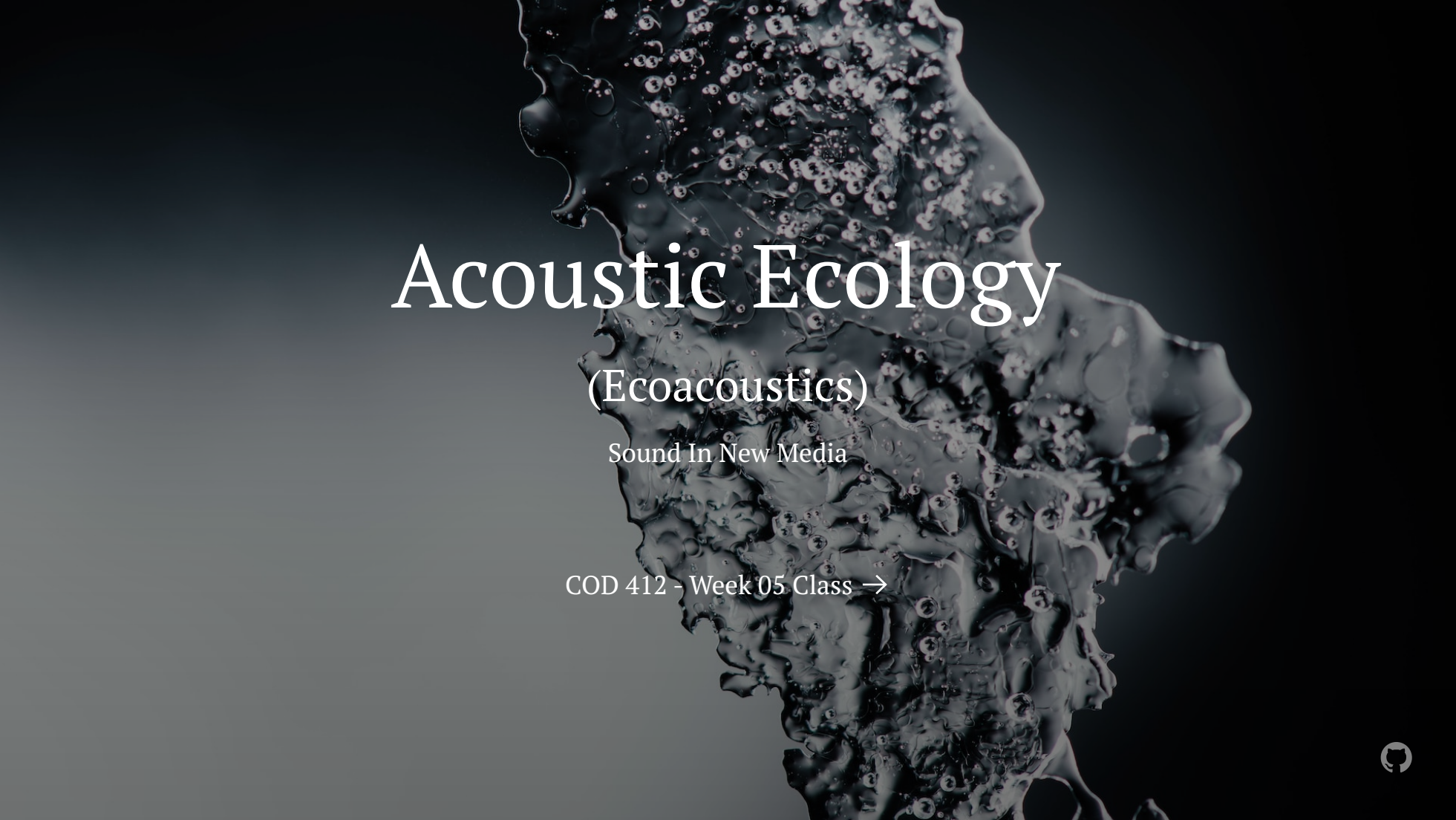

Acoustic Ecology

(Ecoacoustics)

Sound In New Media

COD 412 - Week 05 Class →

What is Acoustic Ecology?

Acoustic Ecology (a.k.a Ecoacoustics) is the study of the relationship between living organisms and their environment through sound.

Focuses on;

- 🌳 Ecology,
- 🌍 Culture
- 🔊 Soundscape

What is Soundscape?

Sounds that constitues our sonic environment.

R. Murray Schafer

Coined the term "soundscape" in 1960s.

R. Murray Schafer is a Canadian composer, musician, and writer (18 July 1933 - 14 August 2021). He states the philosophy behind ecoacoustics as; individuals should treat the acoustic environment as a musical composition and be aware of its composition. Schafer points out that visual expressions dominates society in the 21st century that corrupts the children’s listening ability. The problematic part of this convention affects directly the nature in a bad way also. So he proposes to include courses to curriculum to improve listening skills of upcoming generations.

Ear Cleaning by Soundwalks

Schafer proposes the term “sonological competence”. It is a practice on listening to the environment that he developed for his music students.

He asks his students to list five sounds they hear during a specific time range in a day, but not music. He found that most of the students do not recall the sounds “consciously.” Even more many of them cannot complete the list.

To address this issue, he proposed “ear cleaning” exercises he called soundwalk. The main purpose of this practice is to increase sonic awareness of the students by walking through a predefined path.

Schafer’s World Soundscape Project (WSP) stems from his soundwalks with his students in the early 1970s. The project team recorded soundscapes, measure amplitude levels to produce [[isobel maps]], and created set of descriptions for sonic features.

Elements of Soundscape

1. Keynote

wind, insects, water, forests, animals in a natural environment and traffic, air conditioner, fridge, electrical noises in urban environments -> Listen

2. Signal

warning devices, computer welcome sounds, whistles, horns, or sirens -> Listen

3. Soundmark

sounds from mosques, church bells, train whistles -> Listen

Keynote Sounds

Keynote sounds (in analogy with key of a piece in musical compositions) are the dominant frequencies that set the tone for an acoustic environments. They are like background actors in movies.

Sound Signal

Sound signals are the foreground sounds acting like a protagonist of a film. Signals convey specific messages or information.

Soundmark

The term is derived from landmark for analogy which are unique identifiable sounds that hold cultural or social significance to a particular location, such as church bells or train whistles. Therefore, soundmarks have cultural and historical significance and should be preserved and protected.

BREAK

10 mins.

Hi-Fi and Lo-Fi

According to Schafer there are two main categories for sounds namely “hi-fi” (high fidelity) and “lo-fi” (low fidelity) that constitute soundscapes to represent the difference between pre-industrial and post-industrial acoustic environments. A hi-fi soundscape environment, sounds overlap less frequently and constitutes more space acoustically. Natural sounds such as wind, animals, and insects are all in harmony within a cyclic behavior

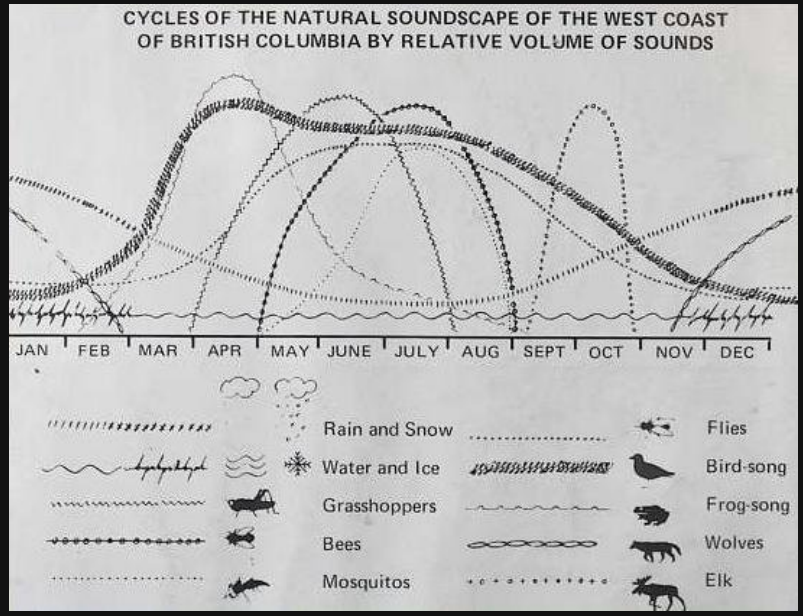

Figure 1. The cycles of the natural soundscape of the west coast of British Columbia showing the relative level of sounds (from Truax 1984: 142)

Mask/Block "Sound Wall"

According to Krause (1993, 158), the spreading urban areas could "block" or "mask" spectral niches, which could lead to species extinctions.

As a result of the lo-fi soundscape, meaningful sounds (along with their associated acoustic colouration) can be masked to the point where a person's "aural space" is reduced. If an individual cannot hear the reflected sounds of his/her own movement or speech, aural space has effectively shrunk to enclose him/her, isolating him/her from the environment. In such situations, sonic information mutates into anti-information called "noise."

Since the sound level and cycles of the sonic entities are in harmony, fi-fi soundscape maintains an identifiable experience for the listener. However, the lo-fi environments the identities cannot be separated from each easily because of the non-harmonious traits of sonic entities. Schafer says that lo-fi soundscapes creates a "Sound Wall" that isolates the individual from the environment.

Why awareness of sound is required for the homo-urbanus?

Slapper (1996) reports that the number of complaints increase day by day and people are killed because of disputes between neighbours noises.

According to Schafer, environmental noise levels are increasing by 0.5 to 1 decibel per year as a result of the battle between sonic expression and control

According to Wrightson, In the hi-fi environment, anyone who is trying to avoid their feelings (consciously or unconsciously) will experience a profound psychological fear. Being in a quit place out of a hi-fi environment