

# Podcasting 101

The sound of public engagement

With Marc Bragdon

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# Feb 25 +26

## Learning outcomes

- Taking into account the *nature of audio* as a storytelling medium, the *properties of sound*, and your *audience's expectations*, prototype your eventual podcast as so: *Introducing yourself, relate a personal anecdote of a time when you realized you wanted to major in biology (or something to this effect).*
- Use a microphone and recording/editing software to best effect in ***performing*** your script
- Add and blend music and/or effects (sound design) into your recording project
- Edit and mix the audio to *optimize the listening experience* in recording/editing software
- Render the audio project as a sound file



Podcast Episode

# Wild Boys | 1. Arrival

Credit where  
credit is due

- Producing
- Research / fact checking
- Writing
- Performance
- Recording
- Editing
- Original music
- Sound design
- Promotion

# UNB IN 30



21.05

23.45



Podcast Hosted by Kalkidan Burke

30 minute  
Journeys  
toward  
2030



# UNB in 30

 with Kolawole Ojo  
30 minute journeys towards 2030





What are some of your favourite podcasts?

Why?

# Podcasting as audio storytelling

# Reading vs listening

	READING	LISTENING
<b>Working example</b>	Article	Podcast
<b>Medium</b>	Light	Sound
<b>Navigation</b>	Flexible and multi-directional	Constrained and linear
<b>Performance</b>	Solitary	Communal (broadcast)
<b>Meaning</b>	Words, visuals	Words, tone of voice, music and sounds
<b>Personal Mobility</b>	Limited	Full



# *Make it personal*

Science  
AAAS

Podcast Episode

**Looking for life on an icy  
moon, and feeling like a rat**

Science Magazine Podcast

- **Relate topics to your own experience**
- **Add cues for tone and pacing to your script**
- **Perform at 150%**
- ***Expect to practice***

# Empathy and Pro-Social Behavior in Rats

Inbal Ben-Ami Bartal,<sup>1</sup> Jean Decety,<sup>1,2,4</sup> Peggy Mason<sup>3,4</sup>

Whereas human pro-social behavior is often driven by empathic concern for another, it is unclear whether nonprimate mammals experience a similar motivational state. To test for empathically motivated pro-social behavior in rodents, we placed a free rat in an arena with a cagemate trapped in a restrainer. After several sessions, the free rat learned to intentionally and quickly open the restrainer and free the cagemate. Rats did not open empty or object-containing restrainers. They freed cagemates even when social contact was prevented. When liberating a cagemate was pitted against chocolate contained within a second restrainer, rats opened both restrainers and typically shared the chocolate. Thus, rats behave pro-socially in response to a conspecific's distress, providing strong evidence for biological roots of empathically motivated helping behavior.

Pro-social behavior refers to actions that are intended to benefit another. One common motivator of pro-social behavior in humans is empathic concern: an other-oriented emotional response elicited by and congruent with the perceived welfare of an individual in

distress (1, 2). Sharing another's distress via emotional contagion can result in overwhelming fear and immobility unless one's own distress is down-regulated, thus allowing empathically driven pro-social behavior (3, 4). Building on observations of emotional contagion in rodents (5–10), we sought to determine whether rats are capable of empathically motivated helping behavior. We tested whether the presence of a trapped cagemate induces a pro-social motivational state in rats, leading them to open the restrainer door and liberate the cagemate.

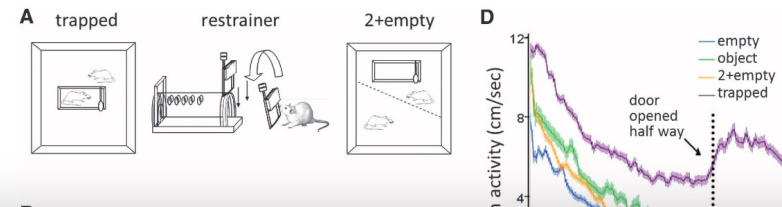
Rats were housed in pairs for 2 weeks before the start of testing. In each session, a rat (the free rat) was placed in an arena with a centrally located restrainer in which a cagemate was trapped (trapped condition,  $n = 30$  rats, 6 females). The free rat could liberate the trapped rat by applying enough force to tip over the restrainer door (Fig. 1A). If a free rat failed to open the door, the experimenter opened it halfway, allowing the trapped rat to escape and preventing learned helplessness. Rats remained in the arena together for the final third of the session. Door-opening only counted as such if the free rat opened the door before the experimenter opened it halfway. Sessions were repeated for 12 days. Control conditions included testing a free rat with an empty restrainer (empty condition,  $n = 20$  rats, 6 females) or toy rat-containing restrainer (object condition,  $n = 8$  males). As an additional control, for the number of rats present, we tested a free rat with an empty restrainer and an unrestrained cagemate located across a perforated divide (2+empty condition,  $n = 12$  males). Free rats' heads were marked and their movements were recorded with a top-mounted camera for offline analysis (11).

Free rats circled the restrainer, digging at it and biting it, and contacted the trapped rat through holes in the restrainer (Fig. 1B and movie S1). They learned to open the door and liberate the trapped cagemate within a mean of  $6.9 \pm 2.9$  days. Free rats spent more time near the restrainer in

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## REPORTS

the arena center [ $P < 0.001$ , mixed model analysis (MMA), Fig. 1C] and showed greater movement speed (hereafter termed activity,  $P < 0.001$ , MMA, Fig. 1D) than did control rats. Before learning to open the restrainer door, free rats in the trapped condition stayed significantly more active in the second half of sessions relative to the first half than did rats in control conditions



# *Balancing concision and eloquence*



Podcast

# UNB in 30

Marc Bragdon

- Solo: Short, clear sentences
- Interviews as conversations
  - *Be ruthless*: Minimize vocal distractions (um, erm, ah) / pauses / rambling / less engaging passages
  - Ask interview subjects to restate good answers that initially ramble to the point



Podcast Episode

**Subtitles On: Why is movie dialogue so hard to understand?**

Twenty Thousand Hertz



Podcast Episode

**Wild Boys | 1. Arrival**

## *Control the flow*

- Pause and set the stage; explicitly wrap up a section and introduce the next (“So...up to this point we’ve learned about the background of X, X’s motivations and X’s expectations, and next we’ll explore how X’s experience of Y has been shaped by these...”)
- Add music or sound effects that fade in / out between segments or shifts in the “story”
- “NPR Effect”: Lead with informant / interviewee soundbites before introducing them

# *Sound planning*



- Real and imagined settings, mood music and *evocative tonal effects* to accompany the script
- Balancing in situ field recording and post-recording sound design for directing listener focus

# Exercise 1: Writing

- Write a prototype (proof of concept) script:
  - *Introducing yourself, relate a personal anecdote of a time when you realized you wanted to become a biologist (or whatever it is you may yet aspire to become). First thought, best thought - we will be working fast.*
- Follow template structure: <https://lib.unb.ca/guides/podcasting-101-workshop>



# Audio Recording



# Physics of Sound

- **Volume** (measured in decibels - *db*)
- **Frequency** (measured in hertz – *hz*,, ranging through low (bass), Mid, and High (treble))
- **Dynamics** (range of intensity)
- **Space** (direction and reverberation (rebound and decay))



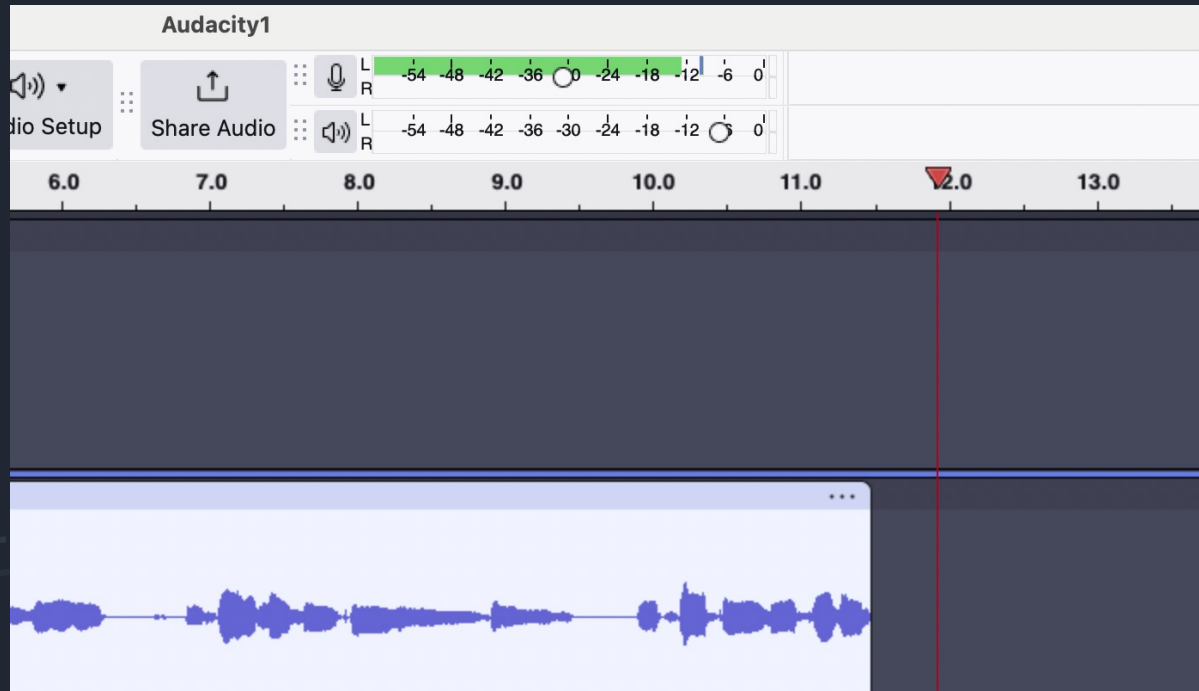
# Audio recording and editing correlates

Property of sound	Recording control	Editing control (Audacity)	Effect (when intentional)
Volume	Gain (microphone)	Volume /Amplification / Fade in and out	Focus
Dynamic range	Practice and intention	Compression / Normalization	Texture and Depth
Frequency	Practice and intention	Equalization (EQ)	Balance and Depth
Reverberation	Distance from microphone, size of space, textures and angles of surfaces	Reverb	Focus and Depth
Direction	Stereo / omnidirectional recording (microphone)	Panning	Focus, Balance, and Depth

# Recording Technical Aspects

- Recording (Microphones):
  - Directional (shotgun, cardioid, dynamic) vs omnidirectional
  - Mono (single source/signal) or Stereo (multiple sources/signals)
- Environment:
  - “Studio” – with sound isolation and dampening, not too cavernous, soft and/or angled surfaces
  - “Field” – Invest in (or borrow) a purpose-built (smartphone) microphone with a windscreen on the mic
- Application:
  - Audio software (desktop, phone app, or cloud) for (some) control

# Dynamic Range



Range of intensity (volume), measured in decibels (db) a recording/listening device is capable of capturing or reproducing

0 db is the device's relative ceiling, above which sounds will be cut or clipped, i.e., lost forever, resulting in distortion

-15 to -10 db is a comfortable range to aim for in recording and output

# Microphone recommendations

- AudioTechnica (AT)2035 for studio recording
- Blue Yeti for studio recording
  - 4 directional settings
- Shure MV88 for field recording
  - Great mic, great app
  - Get a windscreen as well
- Rode Wireless Go for live events (good for filming too)

HIL RC Audio Studio:

<https://lib.unb.ca/researchcommons/audio-studio>

UNB Equipment Pool:

<https://www.unb.ca/fredericton/cetl/classrooms/equipment/equipment.html>



## Before we meet again

- Choose one recording location (home, audio studio, elsewhere)
- Decide whether you are going to record using your laptop microphone or an external microphone
- Sound dampen your recording.
- Using Audacity or GarageBand, record 30 seconds of room/ambient sound (just the room)
- Mute the recorded track
- Add a second track and record your performance of the script
- As much as you can, breathe from the belly.
- If you make a mistake, do one of the following:
  - Pause, and continue where you left off,
  - Stop, delete, and start over
- Save your project

# Recording guidelines

Audacity



GarageBand



# Recording hazards

- Reverb (sound bouncing around):
  - Easy to add, hard to subtract
  - More reverb suggests large spaces or distances; control through room/space textures and size of spaces and distance from microphone
- Gain (mic sensitivity / input volume)
  - Easy to boost, hard to refine overdriven recording (distorted)
  - Check levels prior to recording, err on the side of quiet (lower gain)
- Breathing and other unintended noises
  - Possible to mitigate during recording and/or editing
  - Cut script into breath-size chunks / lean back in between or when taking a breath
  - Record a separate track of room/space ambience to cover any de-amplification during editing, or copy "dead air passages" and paste in a separate covering track