

# they prefer night swimming

A SOUNDCHASING JOURNAL

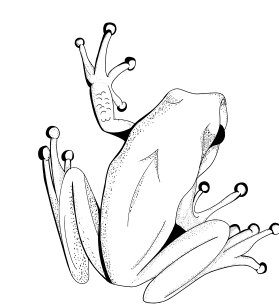
Levi Masuli



QUEZON CITY  
PHILIPPINES / 2023

I first heard their calls while cycling in the city at night, passing by the last remaining green areas of the Quezon City. I decided to make a map of these frogs and other sound-making anurians, perhaps a field guide for people who wanted to hear another kind of concert. But the pandemic hit, and every time I sneak out to give them a visit, they just weren't there.

Finally, after years of shelving the project, I decided to look for them again. This is a record of my attempts to search for these elusive creatures.





LA MESA ECO-PARK

BAGONG SILANGAN

HIMLAYANG PILIPINO

OLD BALARA

COMMONWEALTH AVENUE

BALARA FILTERS PARK

UP DRIVE

ARBORETUM FOREST

NINOY AQUINO PARKS AND WILDLIFE CENTER

HARDIN NG ROSAS

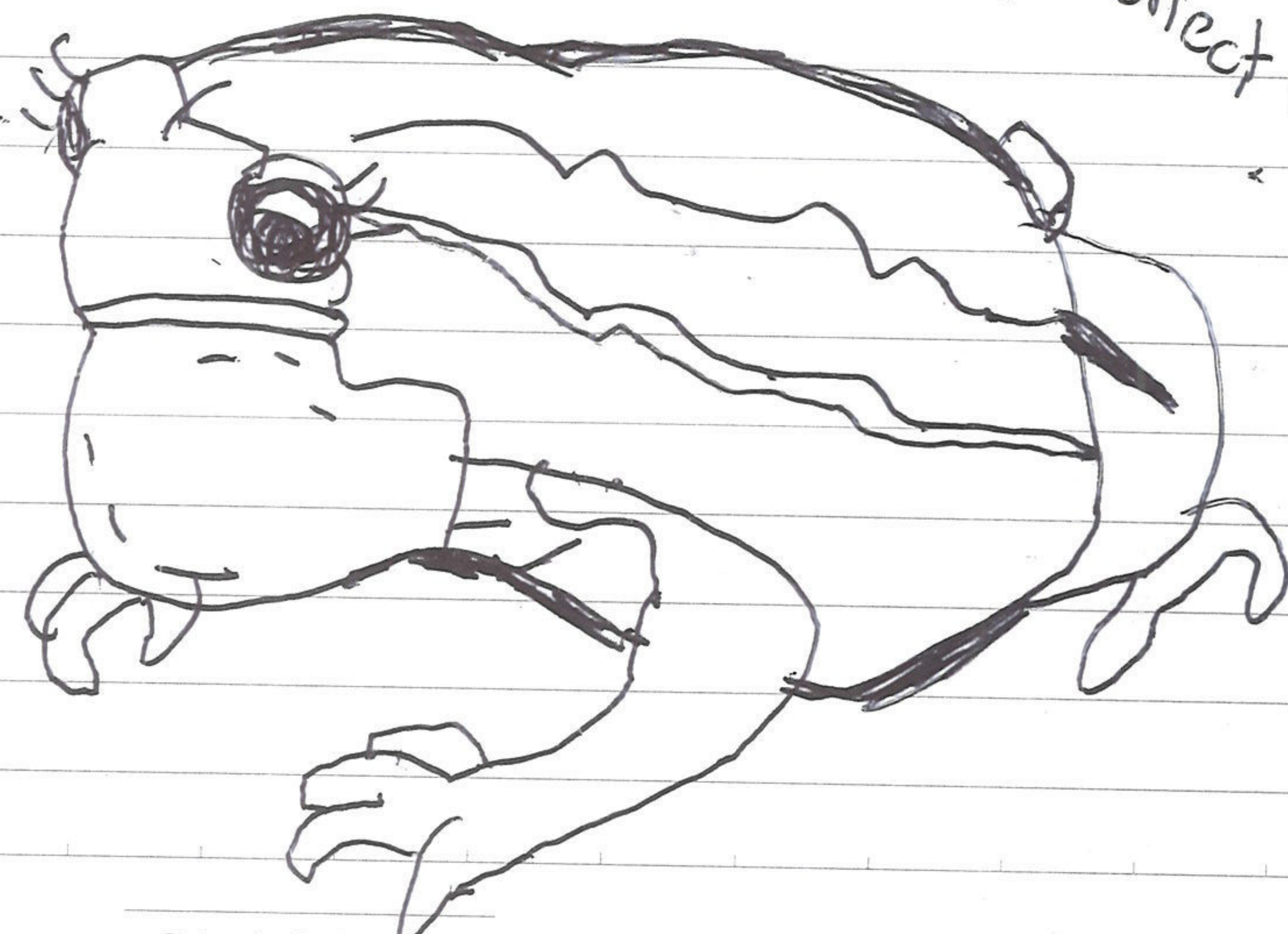
## WHAT IS THE BANDED BULLFROG

The banded bullfrog (*Kaloula pulchra*) is a species of the family Microhylidae native to Southeast Asia. Also called the "chubby frog", their diet includes ants, termites, and other invertebrates.

They can be seen in riverbanks, wetlands, and even residential areas. They become sexually active during the monsoon season and breeds in rain pools and ponds.

They can inflate their bodies when under threat. They hide under leaves or burrow underground to protect themselves from the sun.

I added the eyelashes, not anatomically correct!



• CLASSIFY •



# LA MESA ECO PARK

14°42'39.8"N 121°04'31.8"E

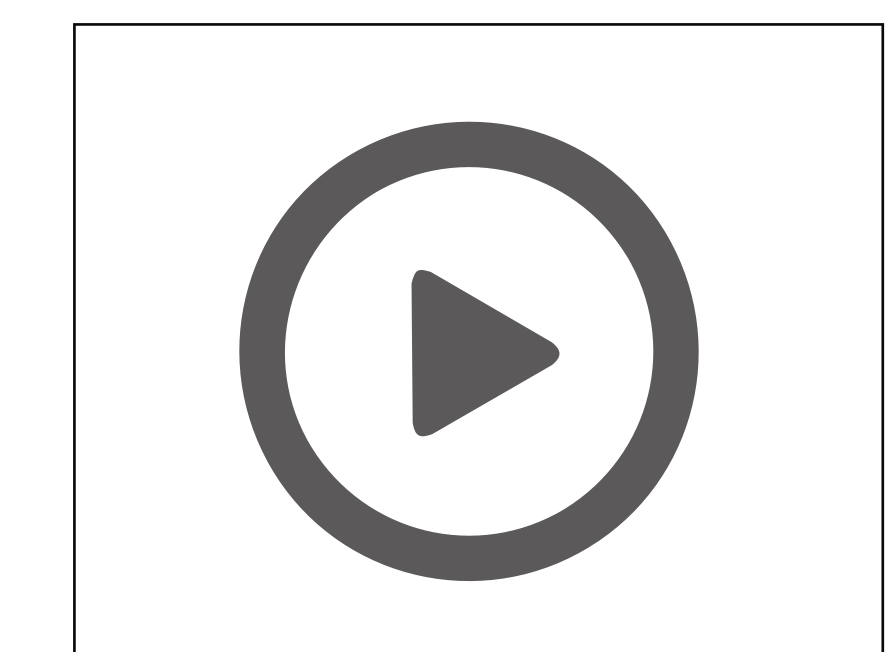
La Mesa Ecopark is a 33-hectare public park that is part of the much larger La Mesa Nature Reserve. It has pools, botanical gardens, an orchidarium, and a small section of the rainforest called "eco-trail." It is a popular spot for birdwatching due to its proximity to the nature reserve and the city's main artery.



Photo from La Mesa Ecopark



Unfortunately, the eco-trail has been closed for quite some time. After several hours of camping in the vicinity. I failed to capture any frog sound. 🐸



# HARDIN NG ROSAS

14°38'33.5"N 121°04'04.9"E

Hardin ng Rosas is a housing project for the staff of the University of the Philippines, located a few kilometers from **C.P. Garcia**. This secluded area is one of the few green areas in Quezon City. Going there is almost like being transported to the province, with small urban poor communities there tilling the land and planting all sorts of vegetables and even rice. It's also a popular place for birdwatching.

I went there during a thunderstorm. The patches of taro plants (*gabi*) I saw lifted my expectations. Local knowledge says frogs usually find shelter under their huge leaves. However, I failed to hear any frog calls. One *ate*, though, said that there definitely are frogs there, but they usually get busy at night. 🐸



# BALARA FILTERS PARK

4°39'20.7"N 121°04'41.0"E

Balara Filters Park is a 60-hectare park in Pansol, Quezon City, near UP Town Center, the Marikina River, and a gated village for rich people. It used to be one of the most popular recreational areas in the city during the 1950s and 60s, known for its swimming pools, rest houses, large picnic areas, and even an amphitheater.



Photo from Pilipinas Retronostalgia

I heard the call of what I assume to be the sound of the green paddy frog (*Hylarana erythraea*), but I failed to determine where the lone caller was hiding. 🐸



# C O M M O N W E A L T H A V E N U E

14°39'16.0"N 121°03'17.3"E



Commonwealth Avenue is the widest avenue in the Philippines, with six to eighteen lanes. It is also a roadway that is close to my heart, as plying through it makes me feel like I'm going home.

One old man I met in Baguio told me that he used to drive along Commonwealth Avenue before it had any buildings. He said it used to be all wild and green, and it is also where killers usually throw their “salvage” victims. My oldest memory of Commonwealth Avenue is a wrecked car in the center island near the UP signage, with a message for motorists to drive safely. I also remember seeing the white dome of the **Philippine Nuclear Research Center** while looking through the bus window. I asked the grown-ups what that is, and they said it is a dinosaur egg, which I believed for some time.

Now Commonwealth Avenue doesn't have a center island anymore, because they're building an extension of the light rail network, and one can no longer see the dinosaur egg because a commercial centre is blocking the view.

I first heard the frogs while cycling along Commonwealth Avenue, in one of its last remaining patches of wild grass. I got so excited that I got off my bike, headed into the dark, recorded the sounds, stepped on mushy mud, and even lost my phone. 🦊

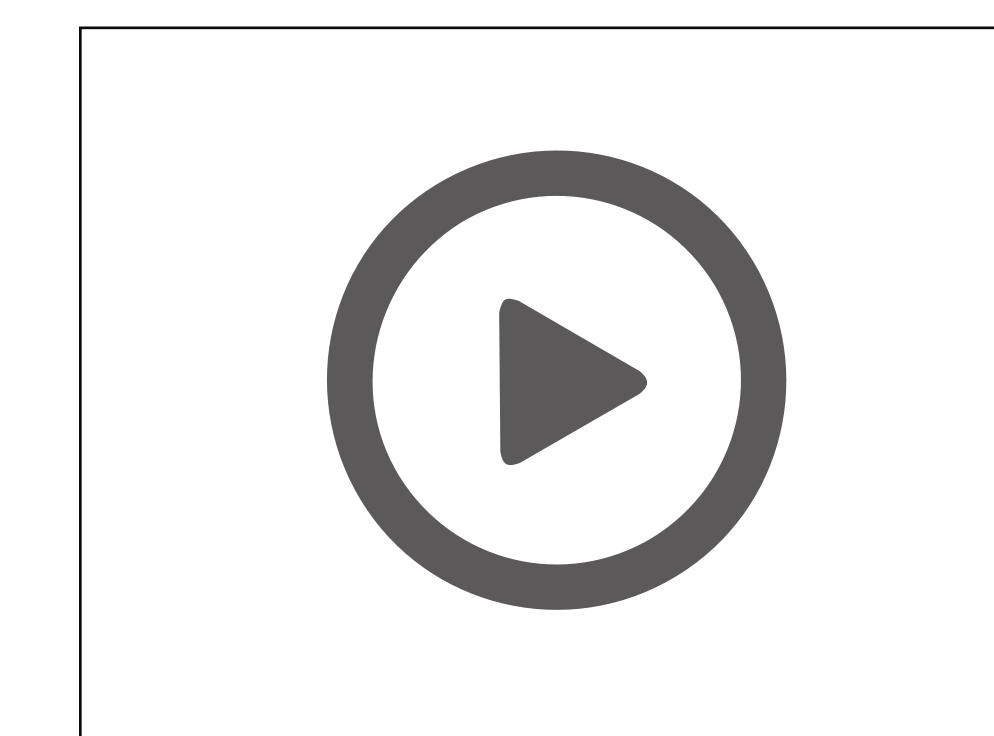


Photo credits from left to right  
(1) from *Maam May We Go Out* (1985)  
(2) Wikicommons  
(3) The author  
(4) Wikicommons  
(5) Googlemaps  
(6) from *The Capital City: Dream and Reality*

# Noise governance and biomidulation

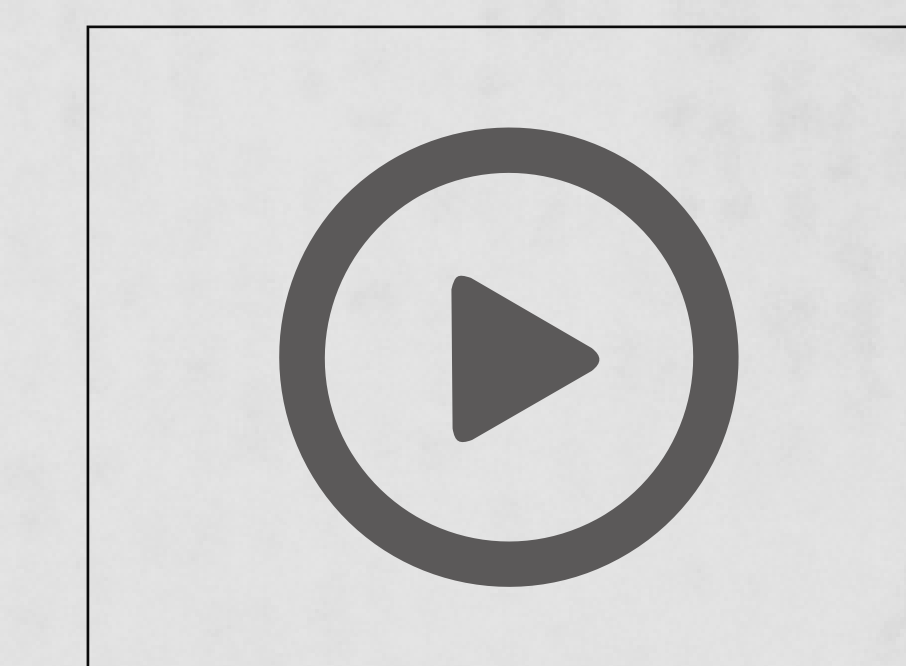
Most modern cities have noise regulations to control the amount of noise pollution in the city. In 6 BCE, in the Greek Colony of **Sybaris**, the council banned tinsmiths and potters from living in the city because the noise they make was considered a nuisance. They also banned roosters (Goldsmith, 2012). Today, noise abatement is considered a health and well-being issue particularly in city centers.

In Metro Manila, the Land Transportation Office (LTO) and the Metro Manila Metropolitan Development Authority (MMDA) are the ones tasked with enforcing ordinances related to noise. The following is the loudness limit set per vehicle type, according to section 5 of the MMDA Regulation 03-005.

VEHICLE	LOUDNESS LIMIT
Motorbike	80 dbA
Cars, jeeps, vans, taxis and other light vehicles	85 dbA
Buses, cargo trucks/ delivery trucks	91 dbA

Meanwhile, exhaust sound levels are limited to 99 dbA. This is enforced through the yearly mandatory inspections for the renewal of vehicle registrations.

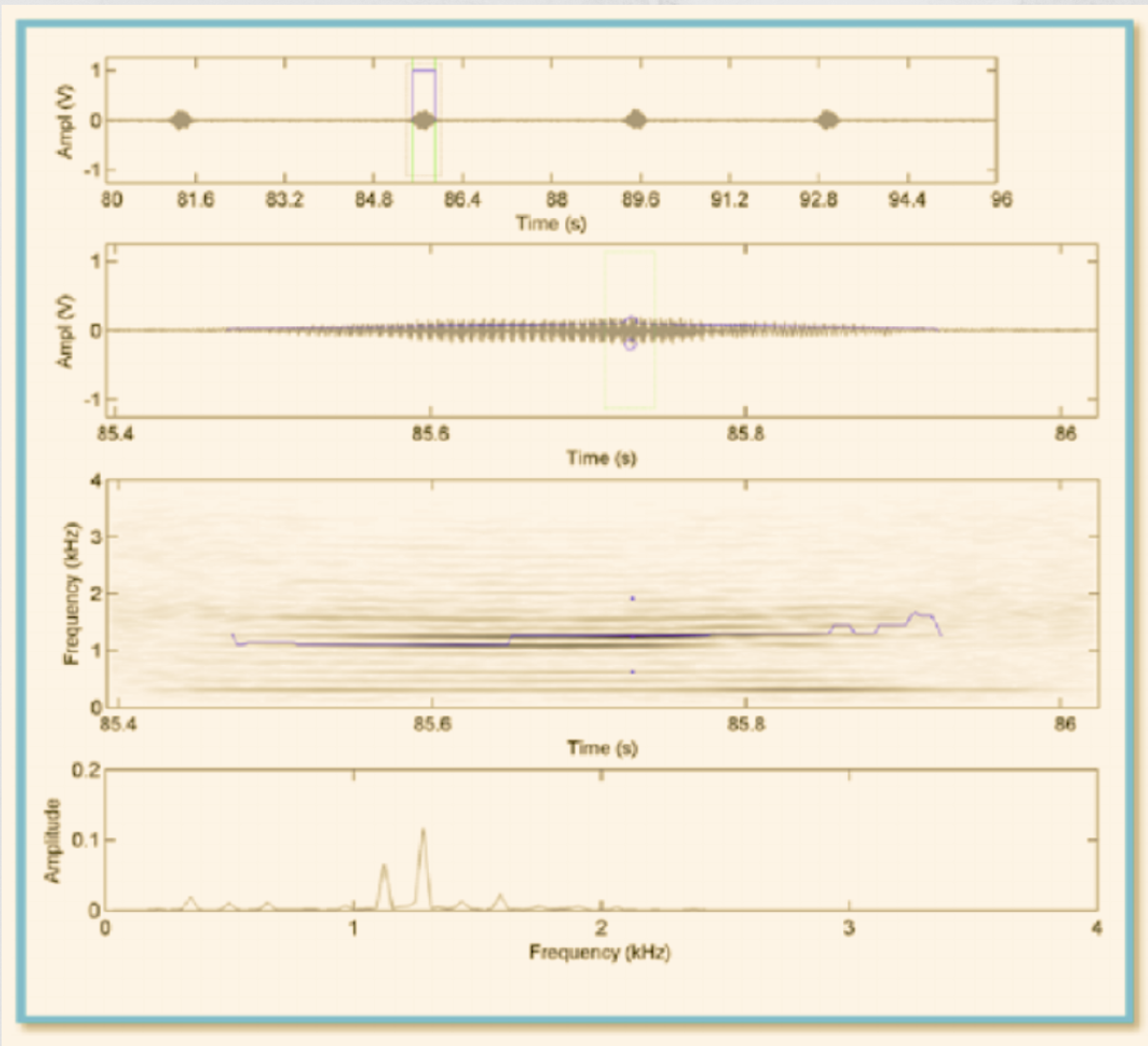
We can also see this attempt to temper urban sonics in the sound design of vehicle horns. Most modern horn designs use a two-note system where two different frequencies are used to make the sound more perceptible in high ambient noise levels. Most horns use pairs of 500 Hz and 405–420 Hz (B4 and G#4), a minor third interval in musical terms. Some use pairs of 420–440 Hz and 340–370 Hz (G#4 and F4), again a minor third.



Thus, the **minor third** has become a sort of standard in most cities. Pitch and loudness differences also allow motorists and pedestrians to distinguish what kind of vehicle is using the horn without visually seeing the vehicle.



Meanwhile, frog calls of urban-dwelling **banded bullfrog** (*Kaloula pulchra*) have been recorded to come out in pulses from 50 to 1760 Hz. A study by Lalremsanga & Hooroo (2018) showed that the dominant frequency of the same species in Thailand is 250 Hz, well below the frequencies occupied by vehicle horns.



Oscillogram, sonogram and frequency spectrum of a *Kaloula pulchra* call (Lalremsanga & Hooroo, 2018)

There is evidence that wildlife in urban settings tends to adapt to their immediate sonic environments. Halkwek et al (2019), for instance, noted that “mating signals in urban conditions differ from those in rural conditions”, where animals “increased the conspicuousness of their calls.. under strong sexual and natural selection by signal receivers, as an adaptive response to city life.”

Thus, noise control and human governance tend to have contingent effects on non-human inhabitants in urban environments. Far from being a chaotic din of sounds, the urban sonic environment is a **self-modulating and auto-equalizing mix of frequencies**. But we have only touched on humanly-perceptible sound and its perceptible effects on animal behavior. There is a lot more work to do to determine the effects of infrasonic frequencies and signals beyond human perception, not only on the behavior of animals such as the *Kaloula pulchra* but also their other vital processes, and the possible adaptive procedures and mutations it may incur in urban-settling non-human populations, and the humans themselves.

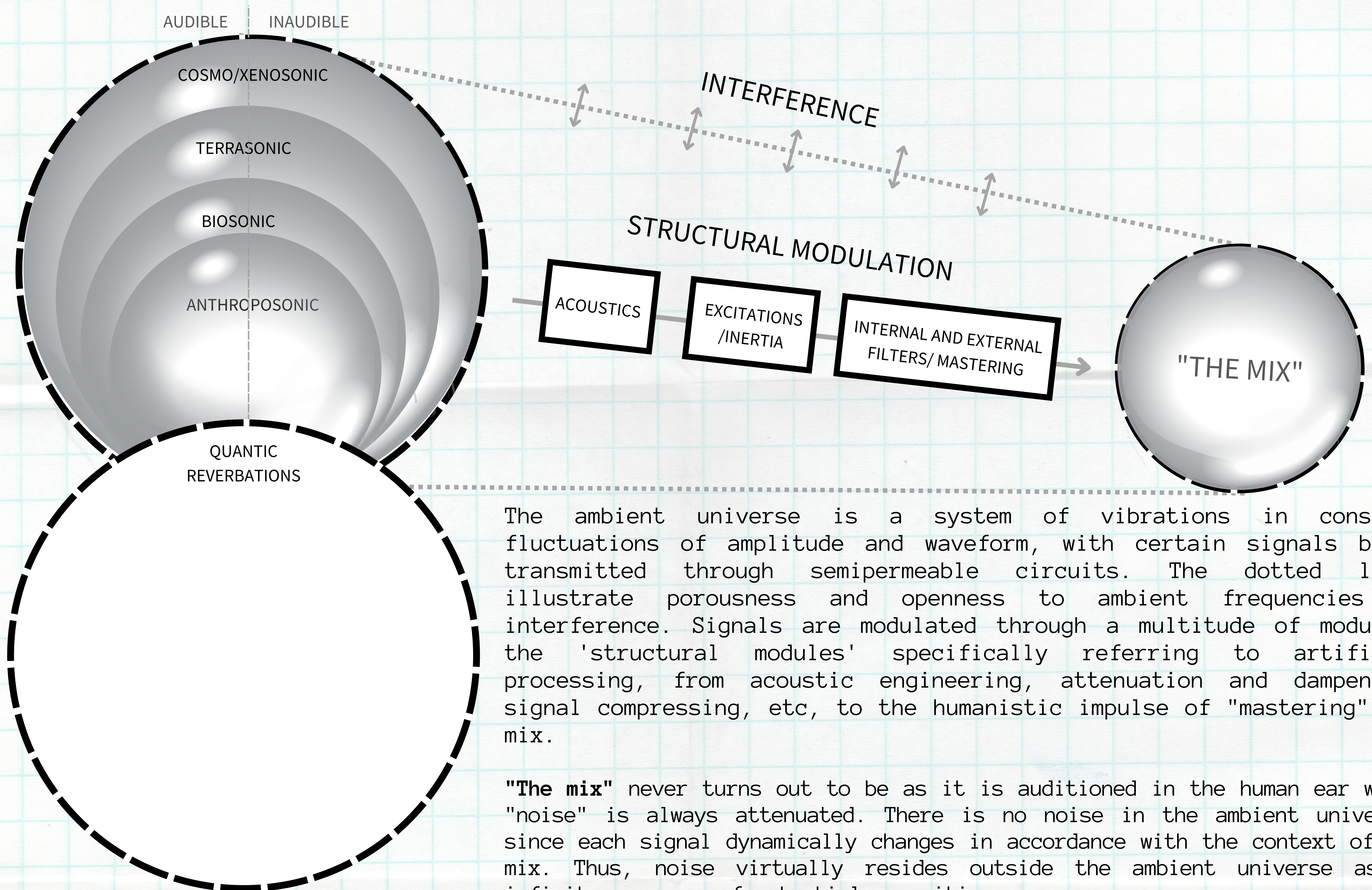
#### References

Goldsmith, M. (2012). *The History of Noise*. Oxford: University Press.

Halfwerk, Wouter, Blaas, Michiel, Kramer, Lars, Hijner, Nadia, Trillo, Paula, Bernal, Ximena, Page, Rachel, Goutte, Sandra, Ryan, Michael, Ellers, Jacintha. (2019). “Adaptive changes in sexual signalling in response to urbanization.” *Nature Ecology & Evolution* 3, March 2019, p. 374–380 <https://www.nature.com/articles/s41559-018-0751-8>

Lalremsanga, H. T., & Hooroo, A. R. N. K. (2018). Bioacoustic Analysis of the Advertisement Calls of *Kaloula Pulchra* Gray, 1831 (Amphibia: Microhylidae) During the Breeding Season. ResearchGate. Retrieved from [https://www.researchgate.net/publication/327977245\\_Bioacoustic\\_Analysis\\_of\\_the\\_Advertisement\\_Calls\\_of\\_Kaloula\\_Pulchra\\_Gray\\_1831\\_Amphibia\\_Microhylidae\\_During\\_the\\_Breeding\\_Season](https://www.researchgate.net/publication/327977245_Bioacoustic_Analysis_of_the_Advertisement_Calls_of_Kaloula_Pulchra_Gray_1831_Amphibia_Microhylidae_During_the_Breeding_Season)

# SCHEMATICS OF SIGNAL TRANSMISSIONS WITHIN "THE AMBIENT UNIVERSE"



The ambient universe is a system of vibrations in constant fluctuations of amplitude and waveform, with certain signals being transmitted through semipermeable circuits. The dotted lines illustrate porousness and openness to ambient frequencies or interference. Signals are modulated through a multitude of modules, the 'structural modules' specifically referring to artificial processing, from acoustic engineering, attenuation and dampening, signal compressing, etc, to the humanistic impulse of "mastering" the mix.

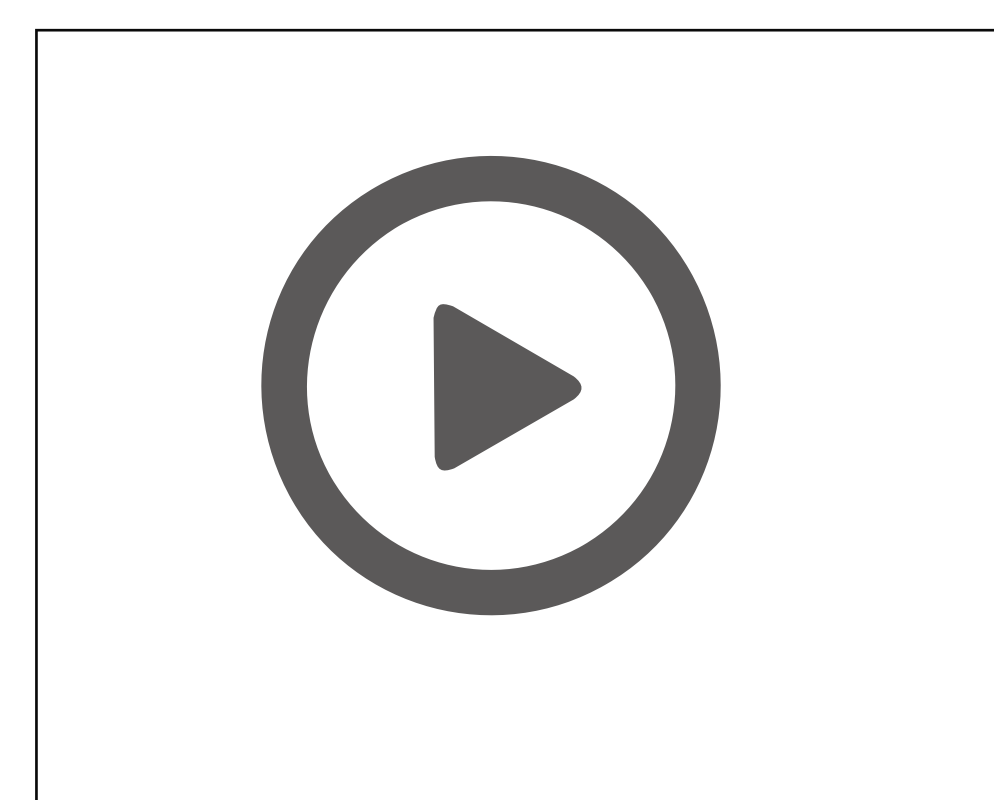
**"The mix"** never turns out to be as it is auditioned in the human ear where "noise" is always attenuated. There is no noise in the ambient universe, since each signal dynamically changes in accordance with the context of the mix. Thus, noise virtually resides outside the ambient universe as an infinite resource of potential sonorities.

# BAGONG SILANGAN/ SAN MATEO

14°41'37.7"N 121°06'42.8"E

Barangay Bagong Silangan is a hillside community at the eastern edge of Quezon City. It lies along the **Marikina River**.

I crossed the river via a small boat and paid 10 pesos for the crossing. I skipped through the mud and headed to **Tatay Ido's** hut. Tatay Ido is a vegetable farmer and part-time tricycle driver whom I've known during our community work there. One evening after spending a day in his hut, with him showing off his pair of black and white water buffalos (like yin and yang, I remarked), I heard a loud symphony of frogs. The sound is different from banded bullfrog's low groans. I did not dare to venture into the pitch-black fields and stayed in the hut as the frogs' songs lulled me to sleep. 🐸



# Tatay Ido's theory of frog calls

🌐 108 languages ▾

Article Talk

Read View source View history

From Wikipedia, the free encyclopedia



*This article is about the Filipino vegetable farmer's theory about frog calls. for more serious theories, refer to your local journals and experts.*

Tatay Ido's **theory of frog** activity encompasses two interrelated ideas: the seasonal nature of frog mating activity, and the economic [theory of diminishing marginal returns](#). According to him:

*"Kapag ganitong panahon, sawa na magswimming ang mga palaka (During this time, the frogs are already fed up with swimming.)"*

While the lack of audible calls during daytime supports the theory, Taty Ido also said that frogs actually prefer **night swimming**. Most frog species are nocturnal, and most mating calls can be heard at night in the right season.

Unfortunately, most experts have failed to talk with any of the frogs to verify these.



Photo of **Tatay Ido** packing his pumpkin produce in his little hut beside the river. 🔍

# ARBORETUM FOREST

14°39'36.8"N 121°03'06.0"E

The Arboretum Forest is 16-hectare botanical garden and one of the few rainforests in the city. It is the home for several species of anurians such as the cane toad, the giant Visayan frog, common green frog, common tree frog, common puddle frog, and the Chinese edible frog.



Entering Arboretum from Philcoa, I navigated through the dizzying alleys of a huge urban poor community that surrounds the actual forest, the passageways barely an arm-span wide. I eventually found patches of green, backyard gardens, young men playing basketball in an improvised basketball court.

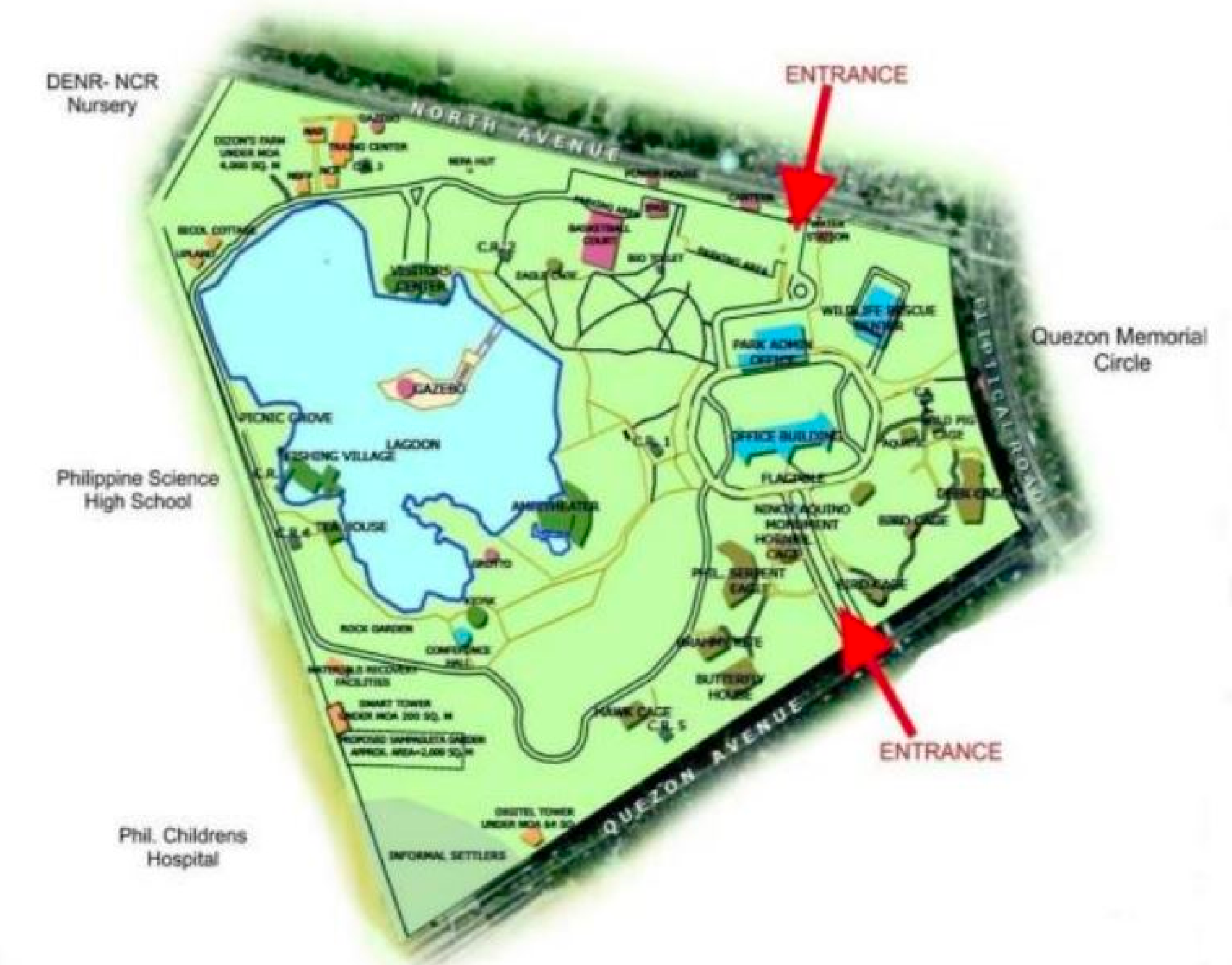
I emerged from the community into a rainforest with a clammy, humid climate. Exhausted, I approached a bananacue vendor and asked her, "Paano lumabas dito?" (How do I get out?). She smiled and told me I had to get through the community again to exit. But the route I took on my way out wasn't the same as the one I took going in. 🐸

# NINOY AQUINO PARKS AND WILDLIFE CENTER

14°39'02.1"N 121°02'37.5"E

Ninoy Aquino Parks and Wildlife is a 23-hectare Protected Area. It has lagoons, botanical gardens, a zoo, and many picnic areas. It also serves as a rehabilitation area for captured wild animals found in residential areas.

I had my first date here, and I still occasionally go there as this is the largest park in Quezon City. It's said to be home to three species of frogs, none of which I found during my last visit. 🐸



# OLD BALARA

14°40'13.3"N 121°04'10.0"E

I first heard of Old Balara in the news, after it went viral on social media for releasing **1,000 cane toads** (*Rhinella marina*) in the barangay's gutters to control the mosquito population in the area and hopefully reduce the cases of dengue among the locals.

The cane toad is **terrestrial true toad**. Considered an invasive spead, the cane toad has poison glands in its warty skin, its tadpoles are toxic, and can be dangerous to domesticated animals such as cats and dogs.

What a typically Filipino idea, with its pomp and absurdity, to throw an invasive species in a congested urban poor area. Rather than address the issue of clogged gutters and unsanitary living spaces, or give people jobs to keep their own community clean, the local politicians simply thought that throwing toads into the mix will solve the problems. 🐸

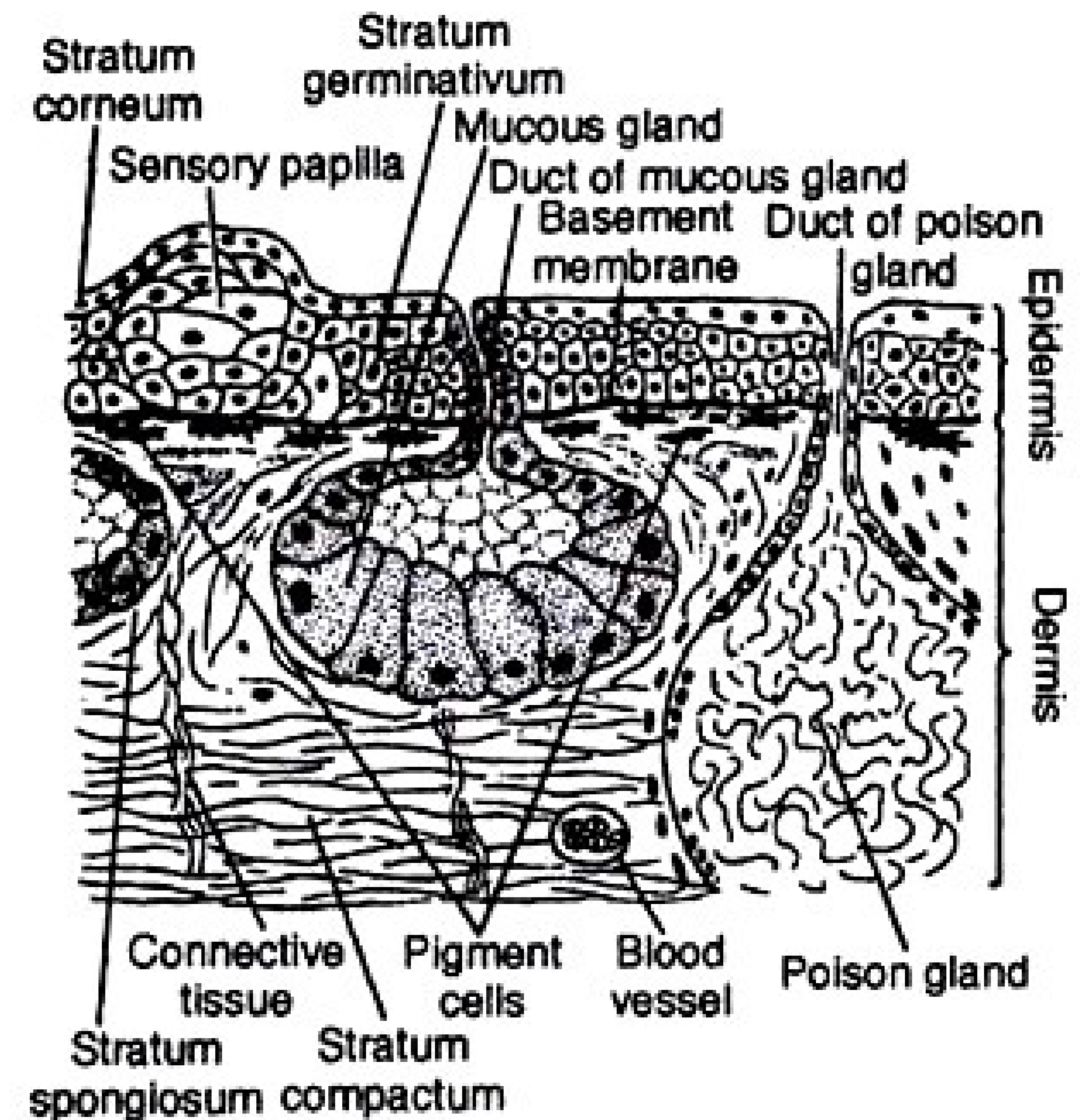
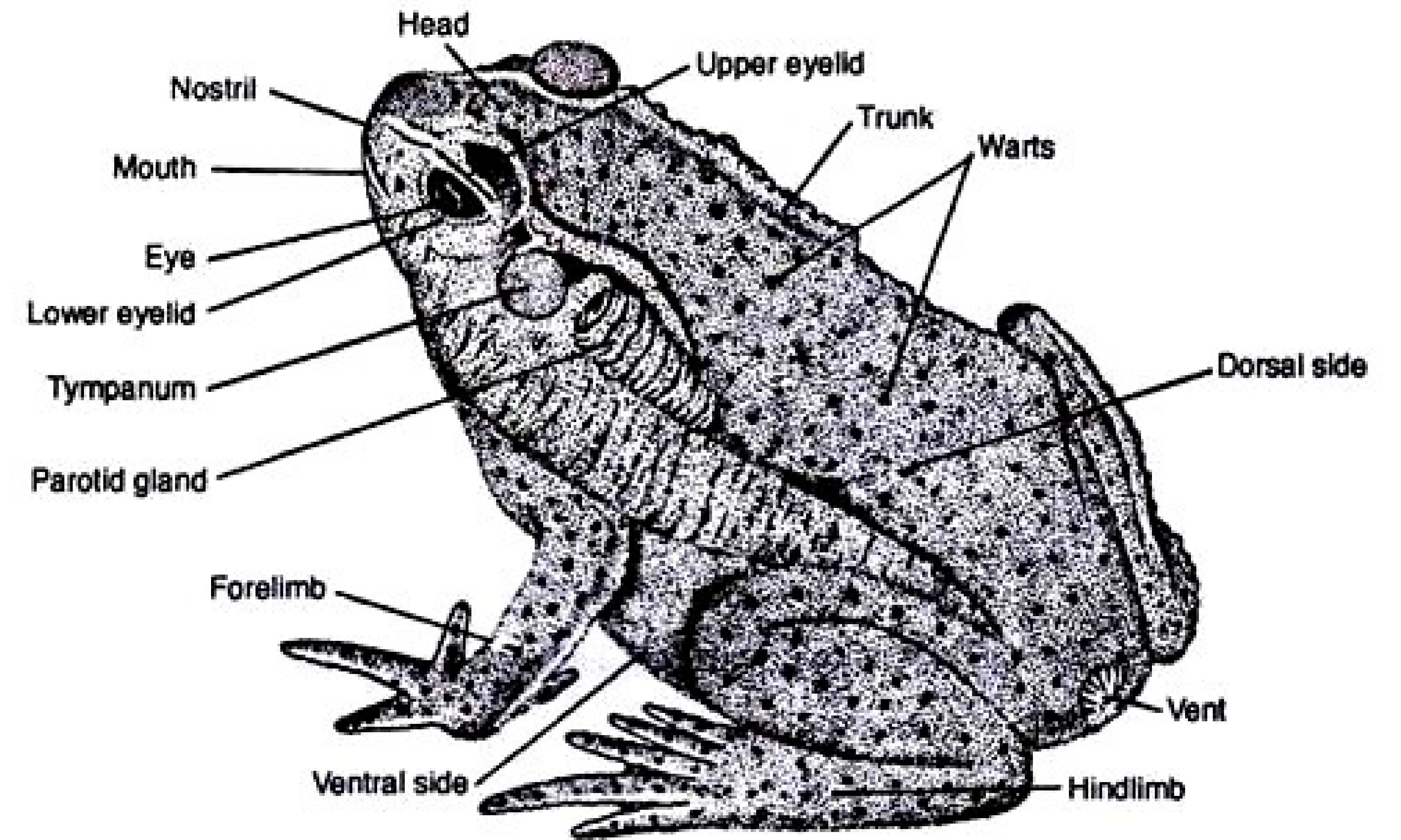
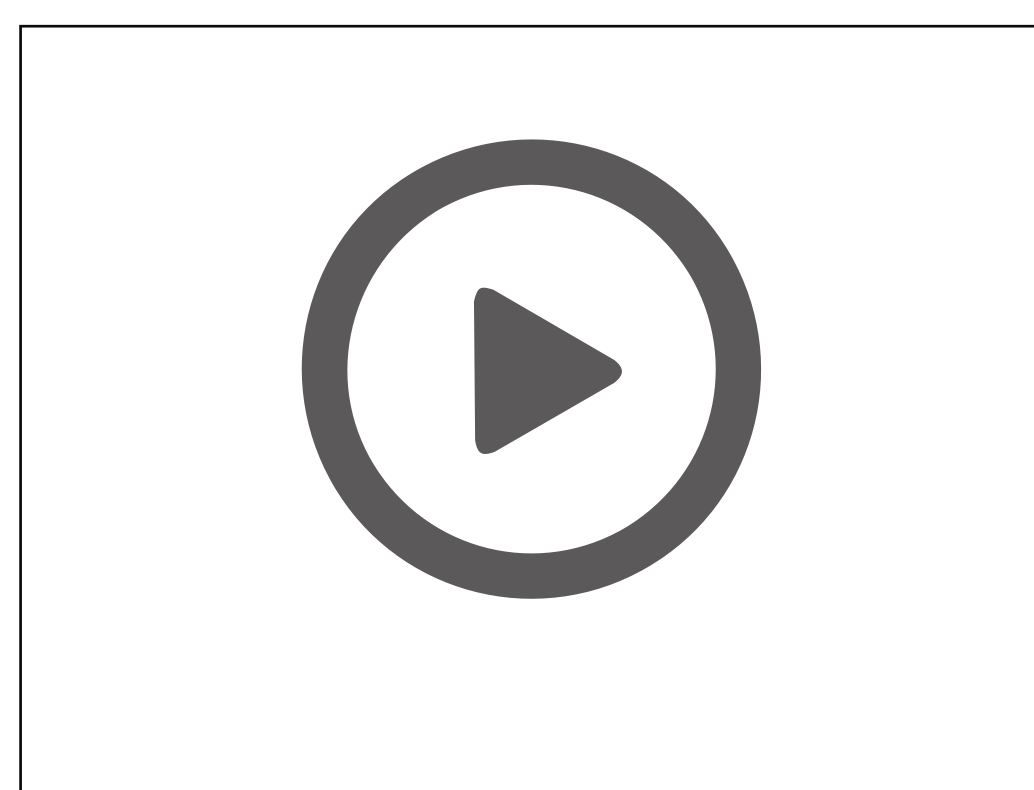


Fig. 1.62 : Diagrammatic sectional view of skin of toad

# HIMLAYANG PILIPINO

14°40'56.6"N 121°03'05.2"E

Himlayang Pilipino Memorial Park is a cemetery in Brgy. Pasong Tamo. Its main thing is being a 'patriotic' burial complex. It has many statues of Filipino heroes and buildings with 'Filipino-inspired' architecture, including a salakot-shaped chapel.

I found it ironic that some of the last green areas in the city are cemeteries. Because of its open spaces, Himlayang Pilipino is also home to many informal settlers, including a large community just outside its vicinity.

I heard no frog calls there, except the croaking of the ubiquitous cane toad. 🐸

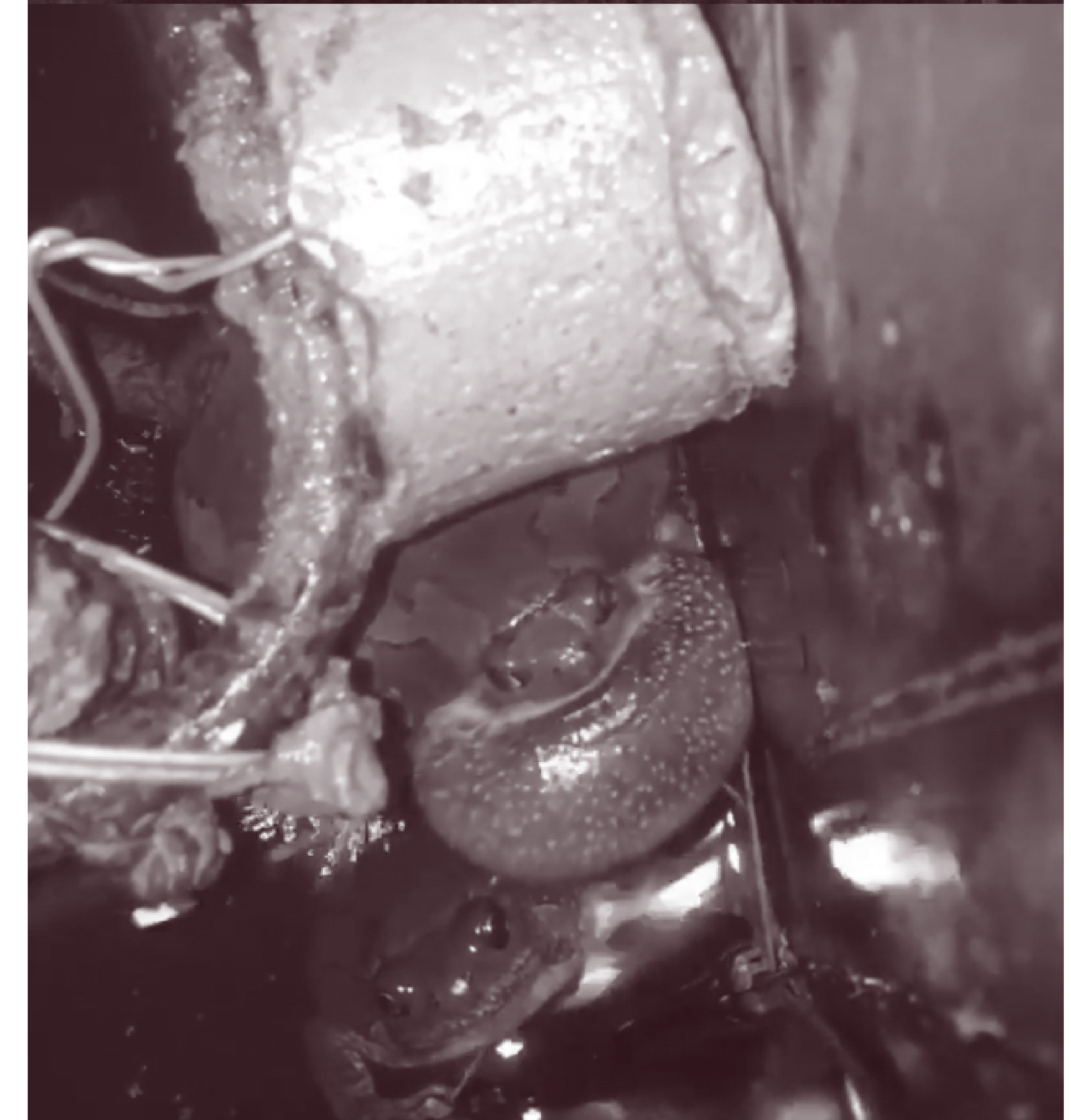


# UP DRIVE/ UNIVERSITY AVENUE

14°39'18.3"N 121°03'23.2"E

Months of dilly-dallying passed before I was able to return to UP drive with the intent of capturing the sounds of the banded bullfrog. UP Drive, despite being largely empty aside from its large swathes of grass and ancient trees, is quite historic. It is where activists held their protests during the lockdowns, when the police prohibited people from congregating in parks and other democratic spaces. UP Drive became a sort of liberated zone, where the agents of state repression have no power. This quiet stretch of land has seen countless moments of agitation and displays of freedom.

During rallies, I sometimes peek at the particular spot where I first heard the banded bullfrogs, wondering: what are they up to? Are they going to sing tonight, woo potential partners? The average lifespan of a banded bullfrog is **10 years**. Perhaps a day of dilly-dallying for them is equal to weeks of adventures of us, a single night of rapturous bonking with their mate is an entire season of love. 🐸



# THE LAST FROG

A poem

The sun is starting to rise  
its rays a bit fiercer,  
higher

The songs have become quieter,  
the love waltz around him  
have calmed.

The last frog, half sunk  
in the murky water,  
sings his faint song.

Some of the newborn, full  
of life, have begun  
scampering around him  
Some of the eggs are  
bubbling in the pool.

The last frog, half-sunk  
in the murky water,  
sings his faint song

The pond is growing smaller  
by the day,  
All of his pals have left  
to rest under the mud  
or to fare their waters  
elsewhere.

Still the last frog,  
half-sunk in the murky  
water, sings his song.

The sun finally falls, the last  
frog's calls grows louder,  
while the city packs its  
things,  
ready to head out,  
or go home.




I've been big and small  
And big and small  
And big and small again

## POST-SCRIPT

One thing I learned about chasing sounds is that you cannot really say that you'll get what you expect to get. There are gazillion things and circumstances that can influence the sounds that you might or might not capture within a tiny slice of space-time in the ambient universe. Most of the time, it has a lot to do with luck.

The image that people get when you mention 'field recording' is usually a person holding a stick with a furry microphone on the end, pointing the thing into a body of water or something visually nice to look at. To be honest, there's a lot of mumbo-jumbo in field recording, especially on the technical (read: expensive) side of it. But the truth is, even the cheapest phone in the market has very capable microphones. For me, the real work of field recording is not in capturing the clearest sound but in the act of chasing. Much like riding a wave, there are flows and swells that are way too immense for a human being to consider in catching the perfect sound or wave (literally the same thing).



Some sounds are also too brief, faster than us taking a recorder out and pressing record. Some sounds are too small, while some sounds are too huge that one can't even realize we're listening *inside* it. The task of a field recordist, therefore, is not simply to hear and register, but to imagine - to expand one's perception, stretch one's concepts and notions or come up with new ones, and to listen beyond the audible. *They Prefer Night Swimming* is a documentation of one such attempt.

After all, the best mic one can have is the human body. The best recorder is the mind and the heart.

This work took 3 years to fully come to form. Huge thanks to Demelza and Tabitha of Pardicolor for all the help in making this project possible! 🐾

*Levi*



