

Welcome to
PHYSICS 157!

This is me



- UBC undergrad in math/physics

- Research in string theory, quantum gravity, black holes, cosmology

Mark Van Raamsdonk

- Not scary

What is this course about?

Let's start with a demo.

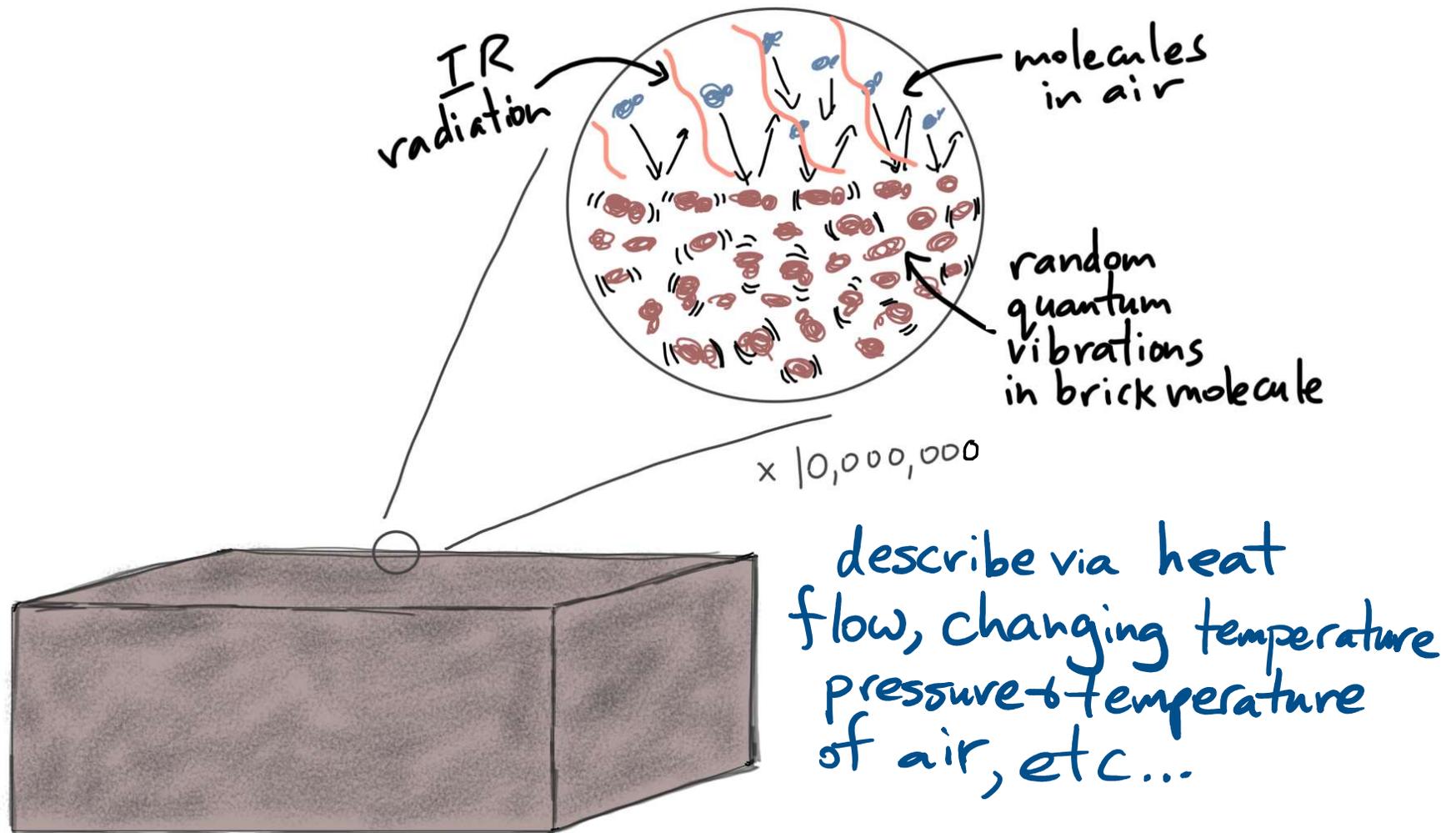


Question 1: What do you see?
Record your observations

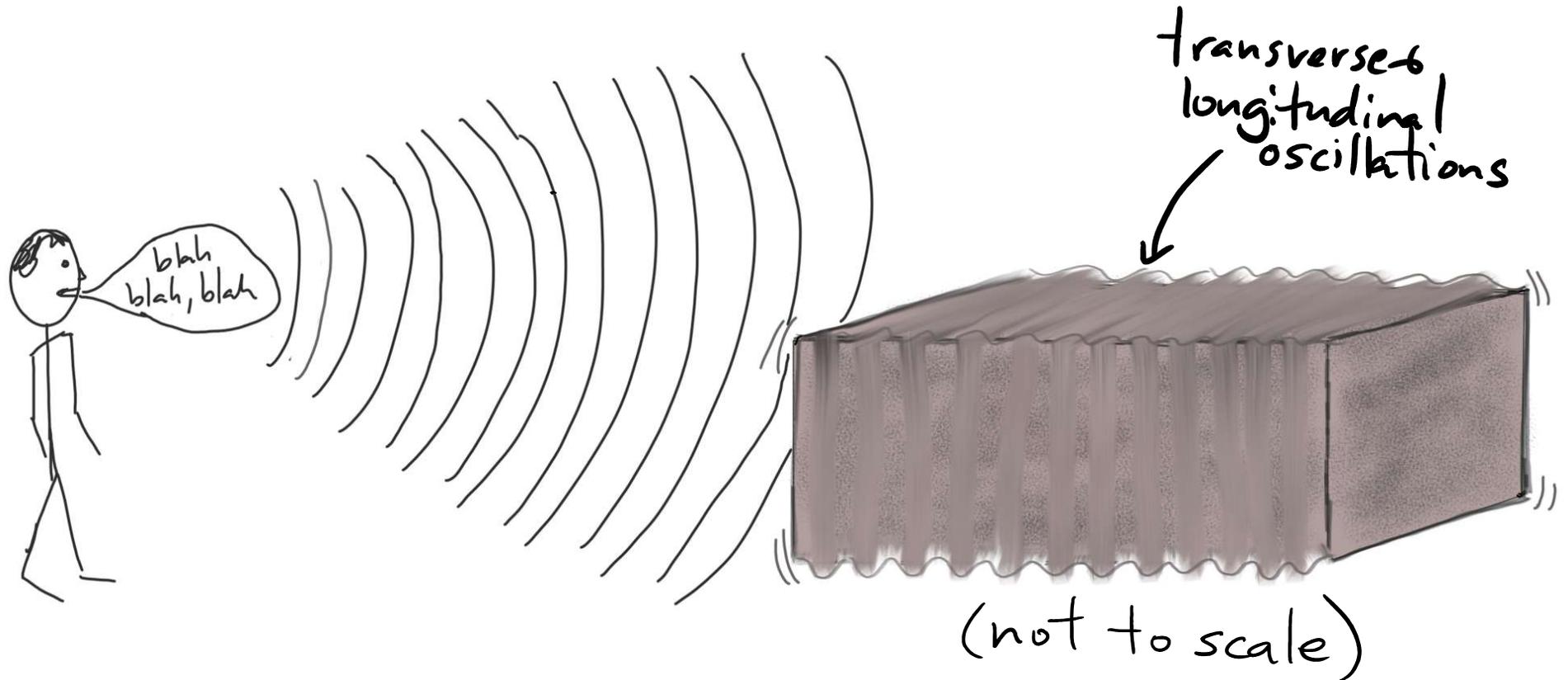
Question 2: What is really
happening here?

Using your knowledge of physics, describe anything that may be occurring / changing here that is not immediately apparent.

Thermodynamics: how to summarize microscopic physics of $10^{23} +$ things.



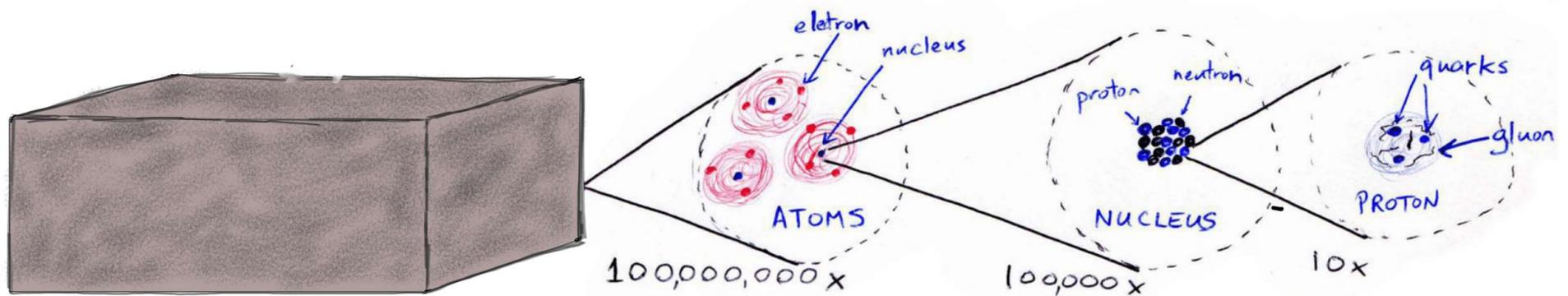
Oscillations + waves: collective motions of macroscopic collections of molecules
(e.g. sound waves, guitar string, ocean waves)



also: more fundamental waves e.g. light, gravitational waves.

GOAL OF PHYSICS: observe the universe
- understand the rules

we now understand the precise mathematics
that underlies physical phenomena from
100 trillion times smaller than we can see...



Course information:

① My webpage for our section:

<http://www.phas.ubc.ca/~mav/Phys157/P157.html>

I have e-mailed you this link.

② Canvas (common to all sections)

Come introduce yourself!

GAMES NIGHT WITH PROFESSORS

TONIGHT: 5:30pm - 8:00pm

LOCATION: Engineering Student Centre Atrium

First office hours: Friday 3:30-4:30 Hennings 420

or before/after class