

Digital Humanities

Lecture 5

March 17

2025

Mario Verdicchio

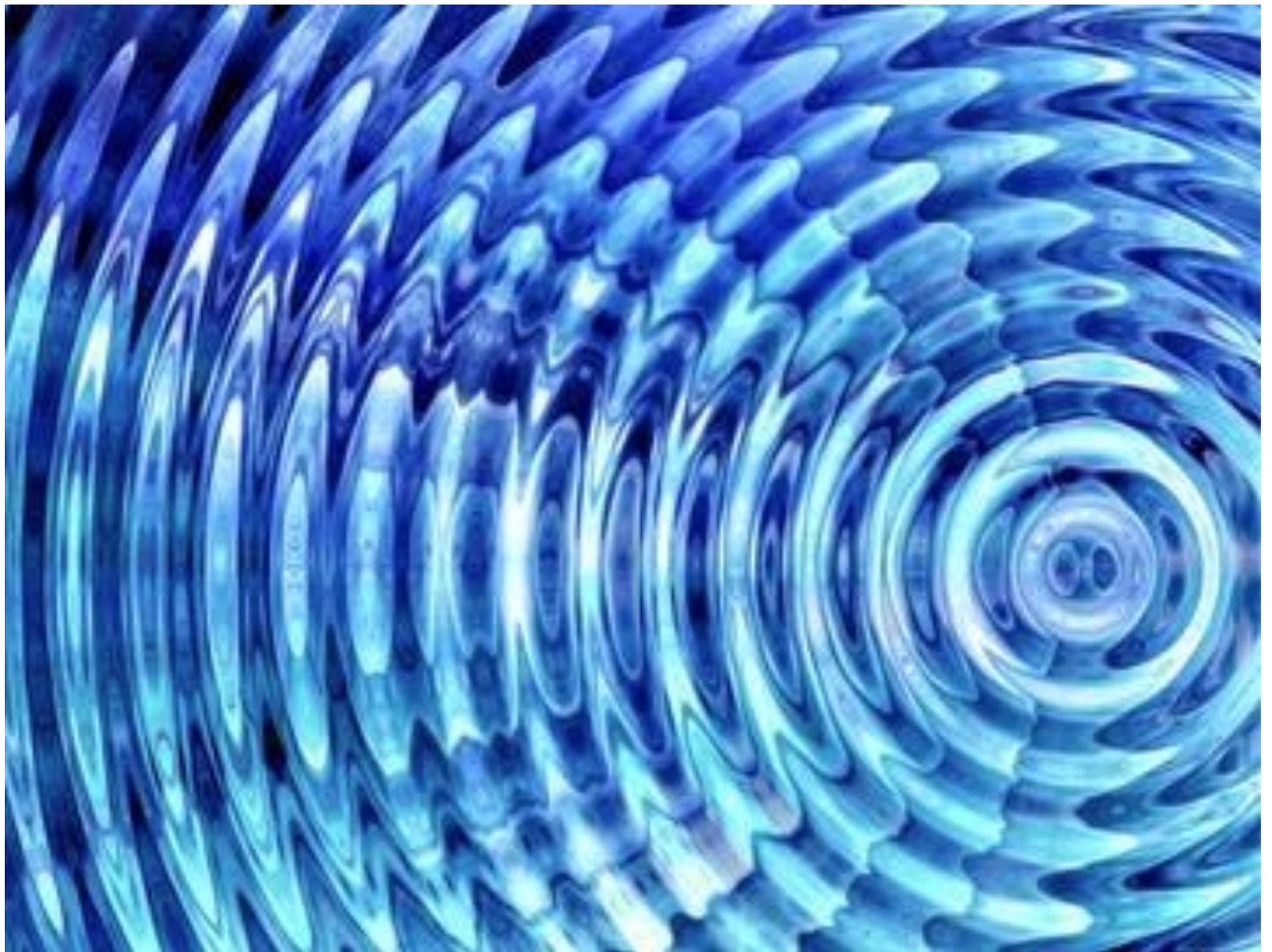












The background of the image is a complex, abstract pattern of swirling, concentric shapes in various shades of blue and cyan. The pattern resembles a close-up of a textured surface, possibly a woven fabric or a microscopic view of a material, with a sense of depth and movement. The colors range from deep, dark blues to bright, almost white highlights, creating a dynamic and visually rich texture.

VIBRATIONS

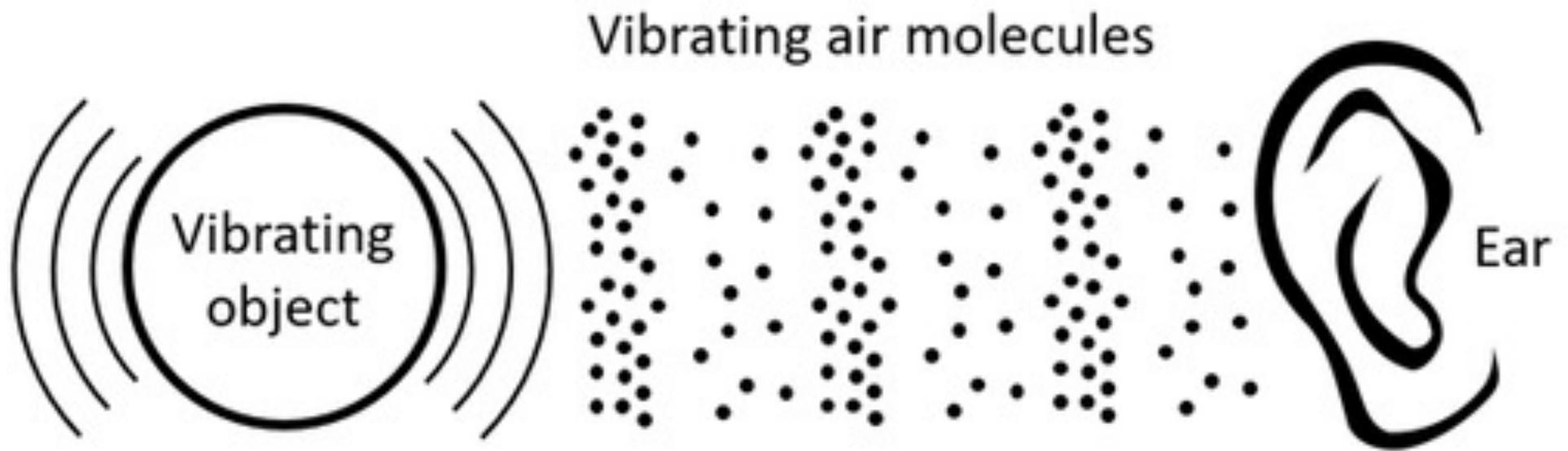
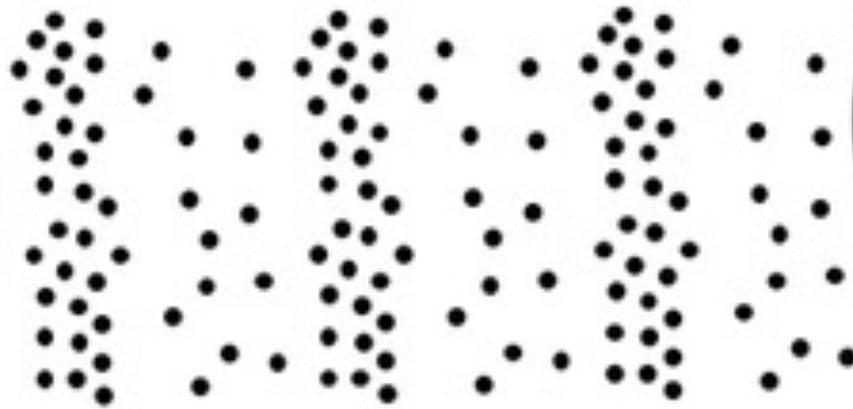


Image courtesy of We Grow Thinkers. (<http://wegrowthinkers.weebly.com/>)



Vibrating air molecules



Ear

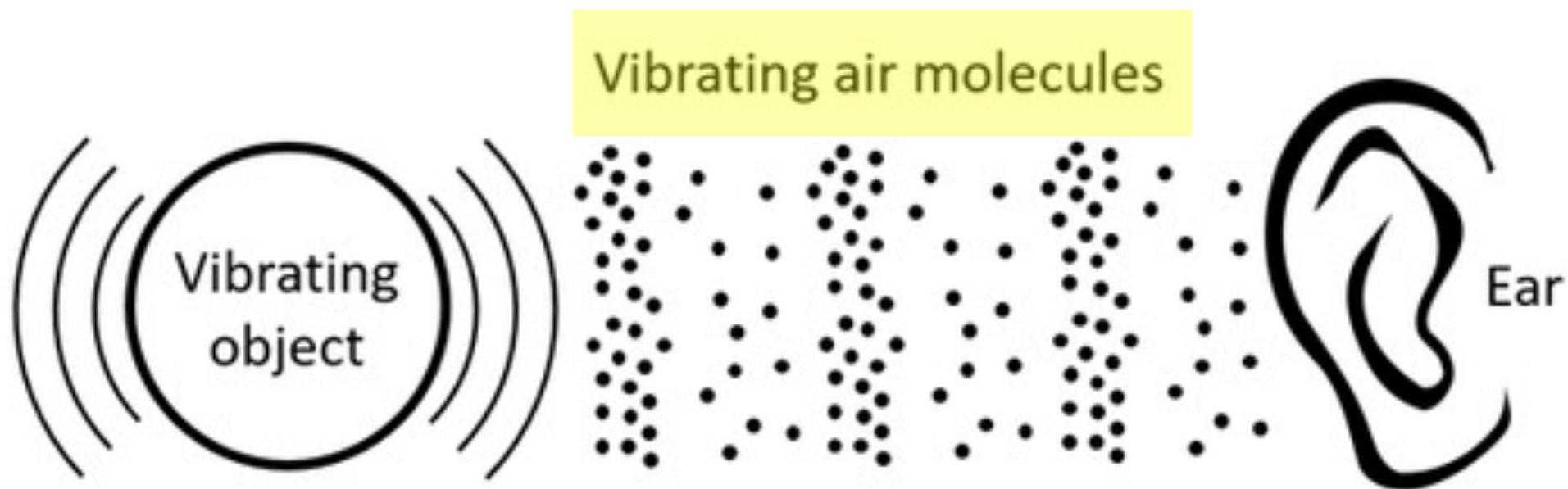


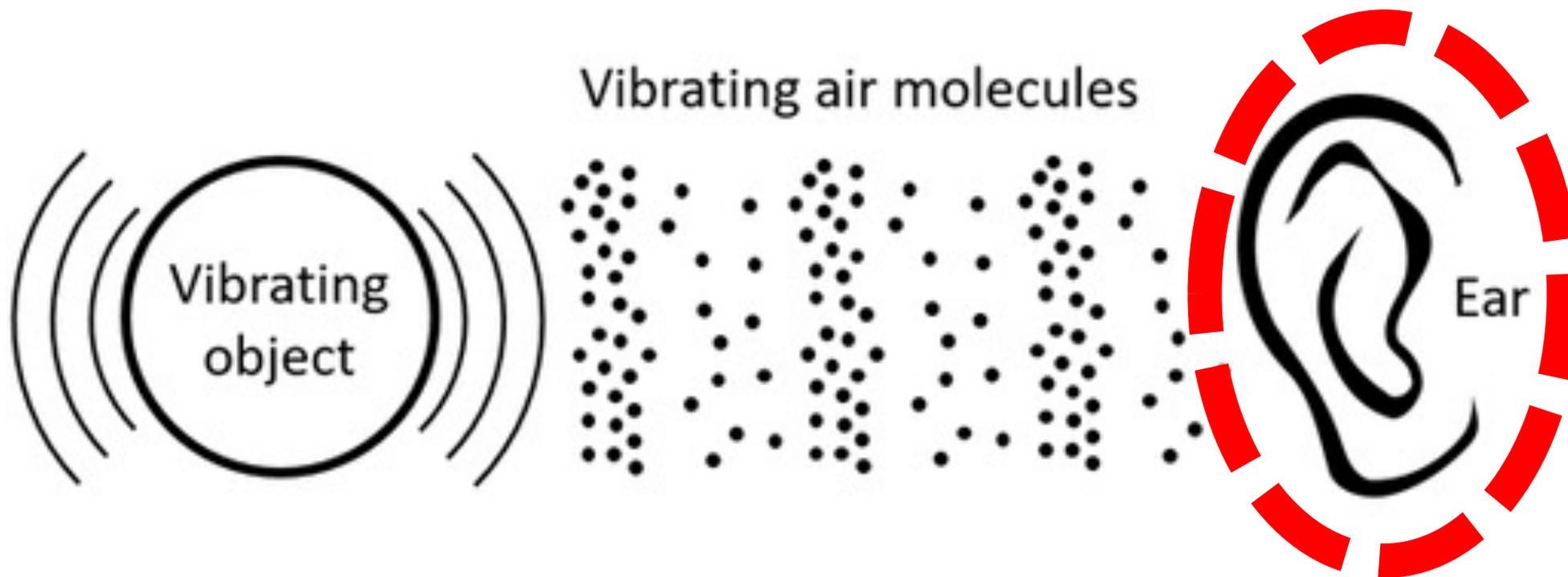


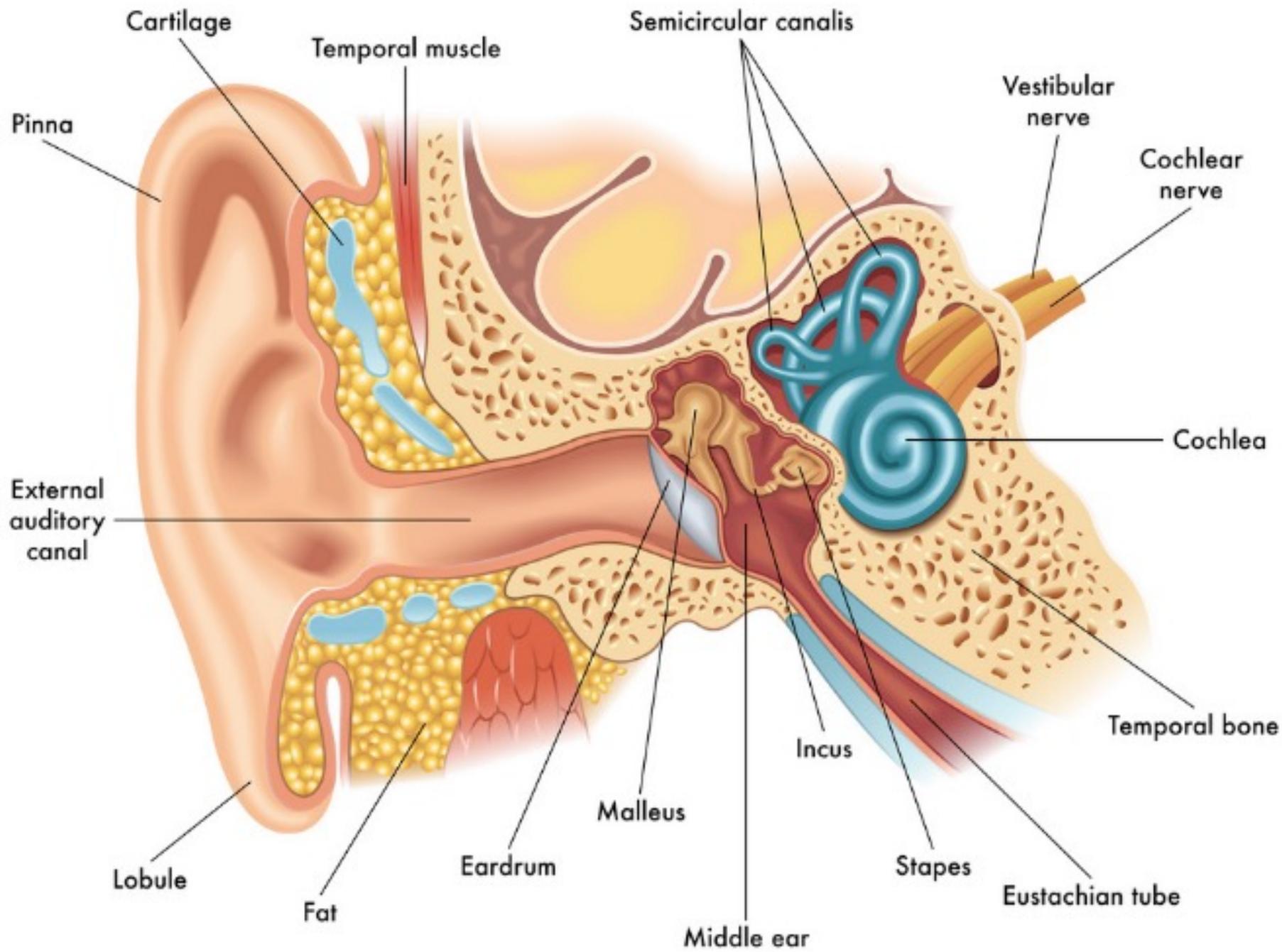


Image courtesy of Tommy Japan 79 on Flickr . (South Vietnam, 1968)



Poster of "Alien" (1979), directed by Ridley Scott.







In June 1883, in the magazine The Chautauquan, the question was asked, “If a tree were to fall on an island where there were no human beings would there be any sound?”

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They then went on to answer the query with, “No. Sound is the sensation excited in the ear when the air or other medium is set in motion.”

The background of the image is a complex, abstract pattern of swirling, concentric shapes in various shades of blue and cyan. The pattern resembles a close-up of a textured surface, possibly a woven fabric or a microscopic view of a material, with a sense of depth and movement. The colors transition from deep blues to lighter, almost white highlights, creating a dynamic and visually engaging effect.

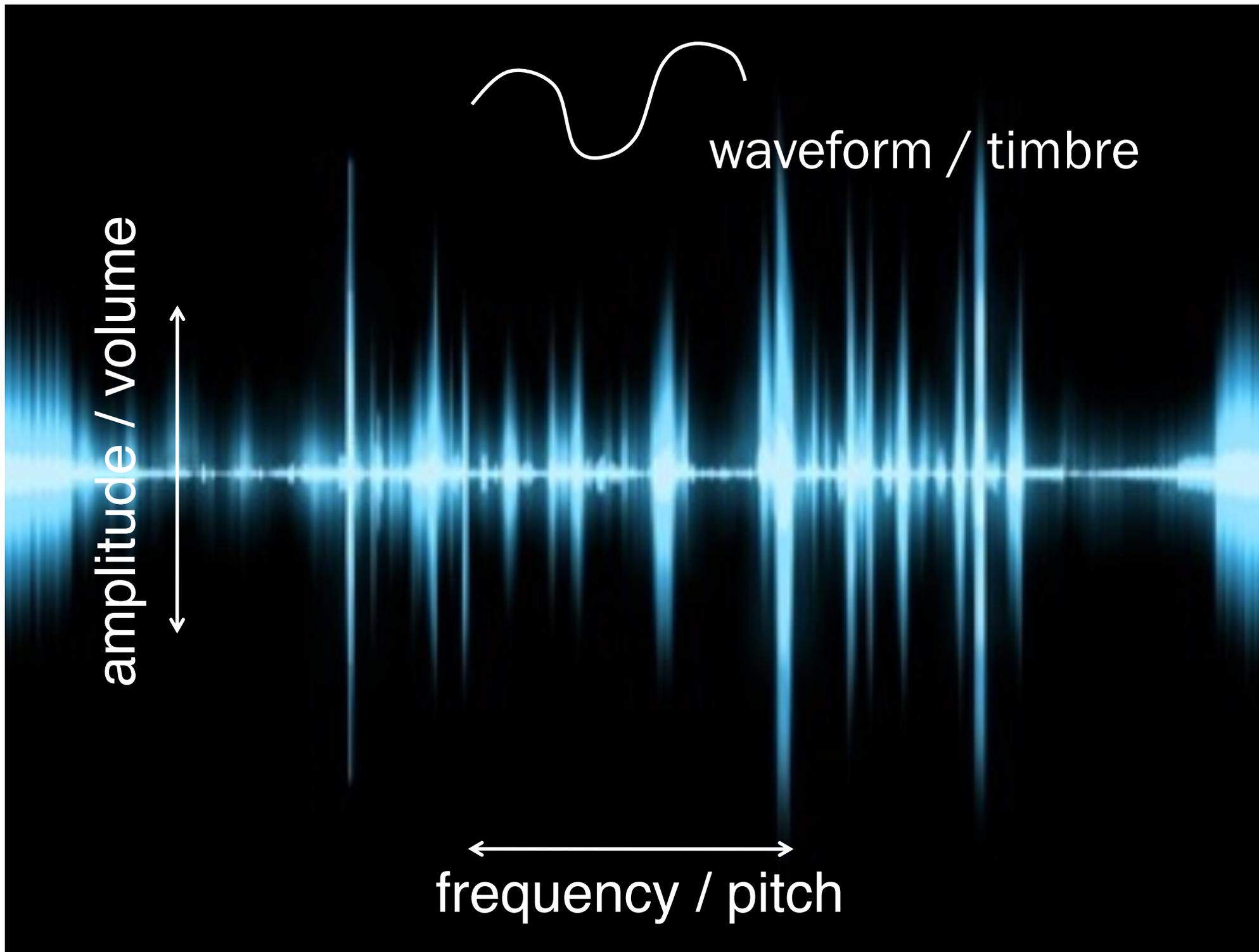
VIBRATIONS



VIBRATIONS
HITTING
YOUR EAR



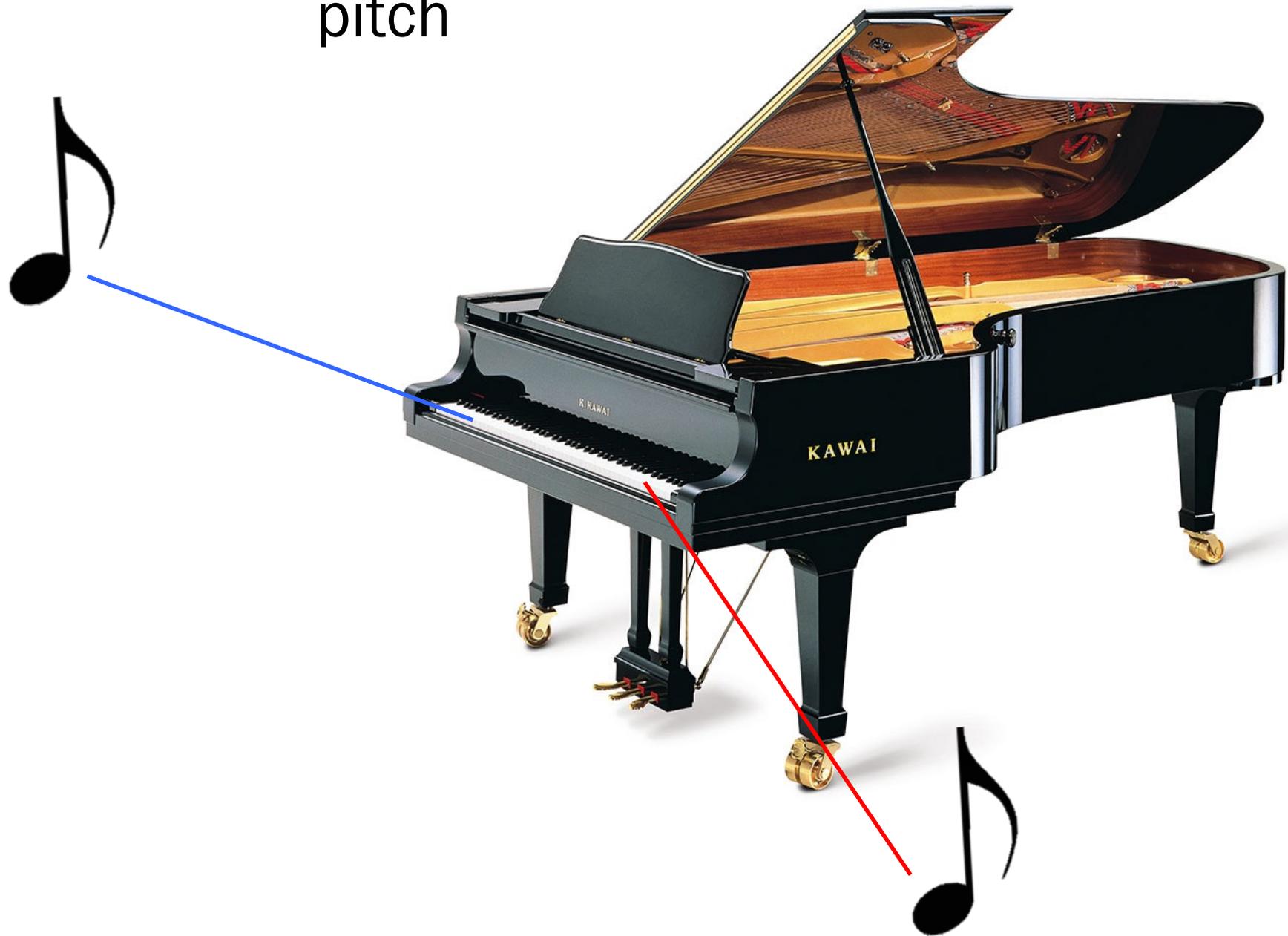




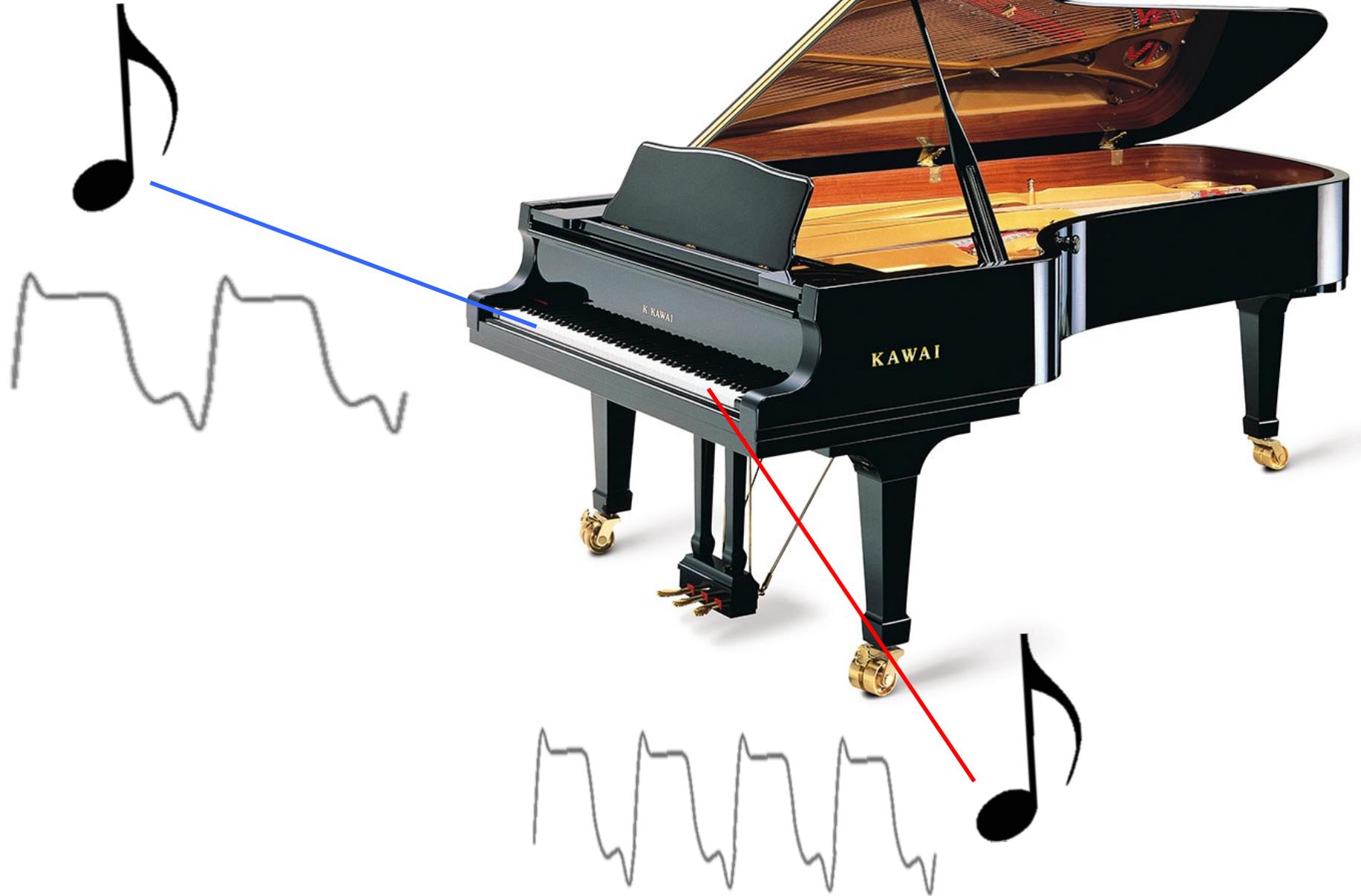
frequency / pitch



pitch



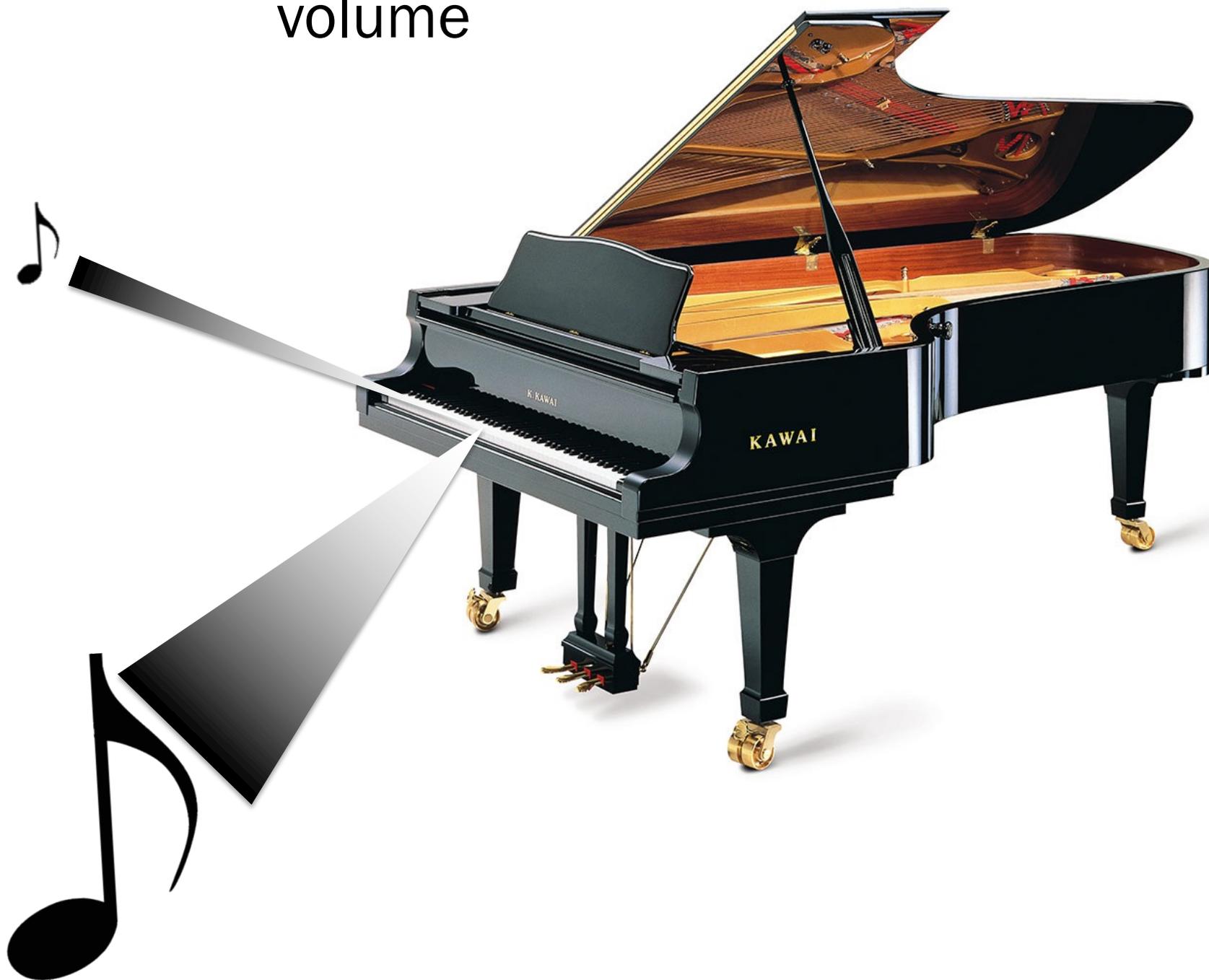
frequency



amplitude / volume



volume



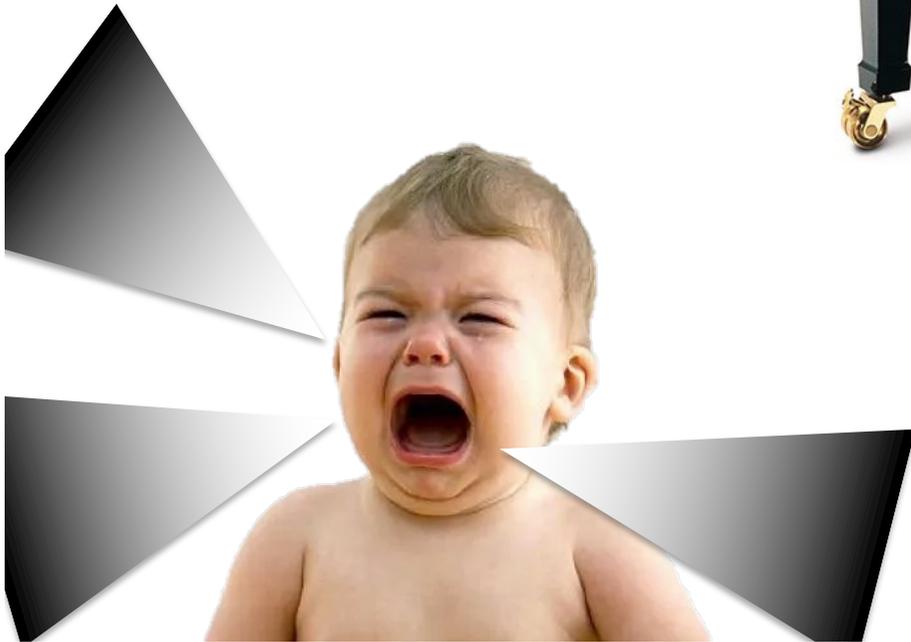
amplitude



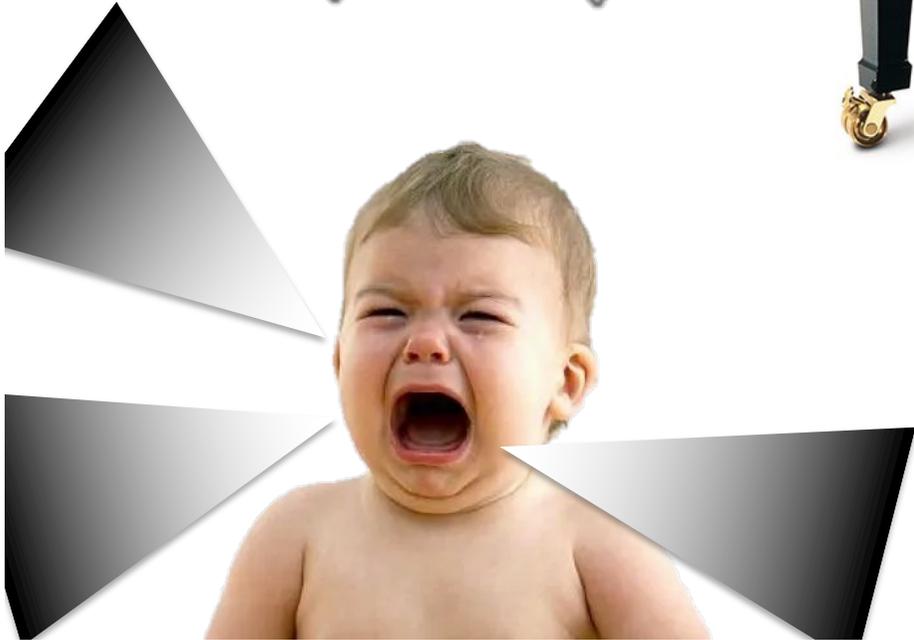
waveform / timbre



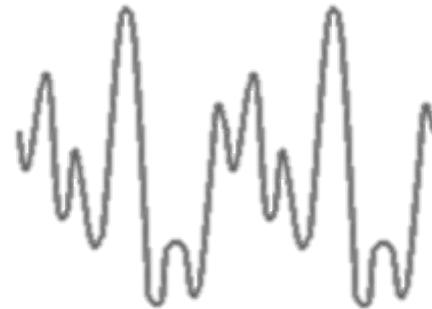
timbre



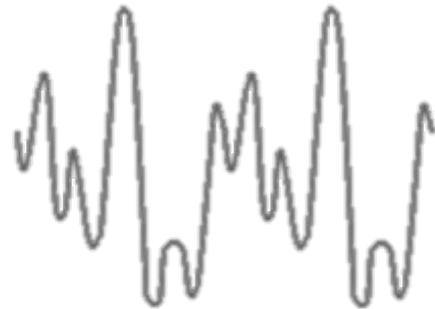
waveform



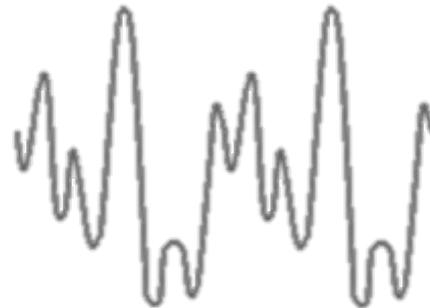
ACTUALLY...



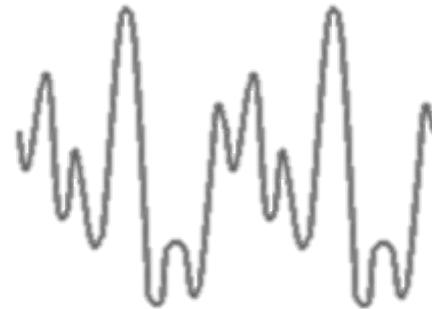
ACTUALLY...



ACTUALLY...







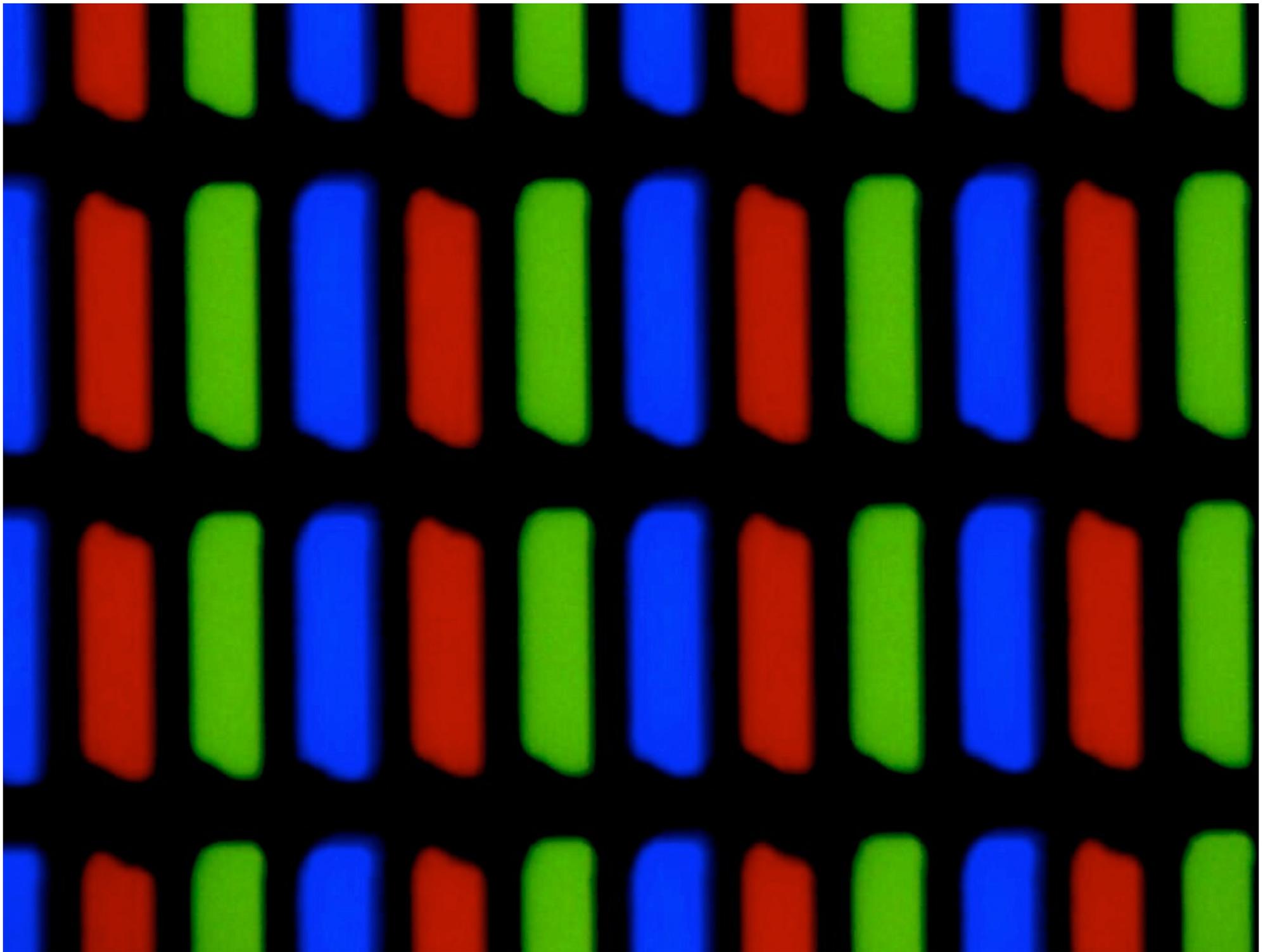


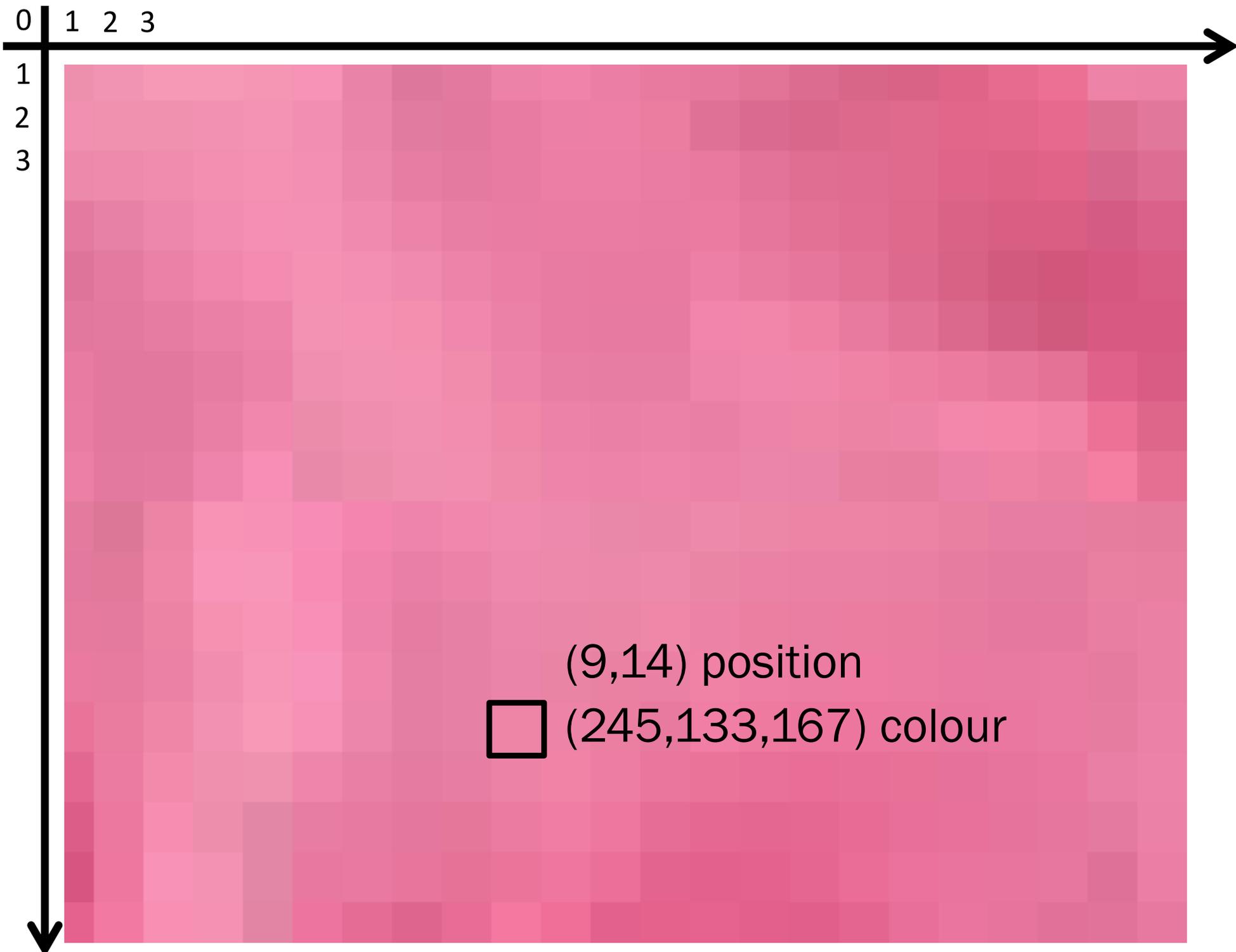


“The Dress”, a viral sensation from 2015 on qualia and subjective perception.



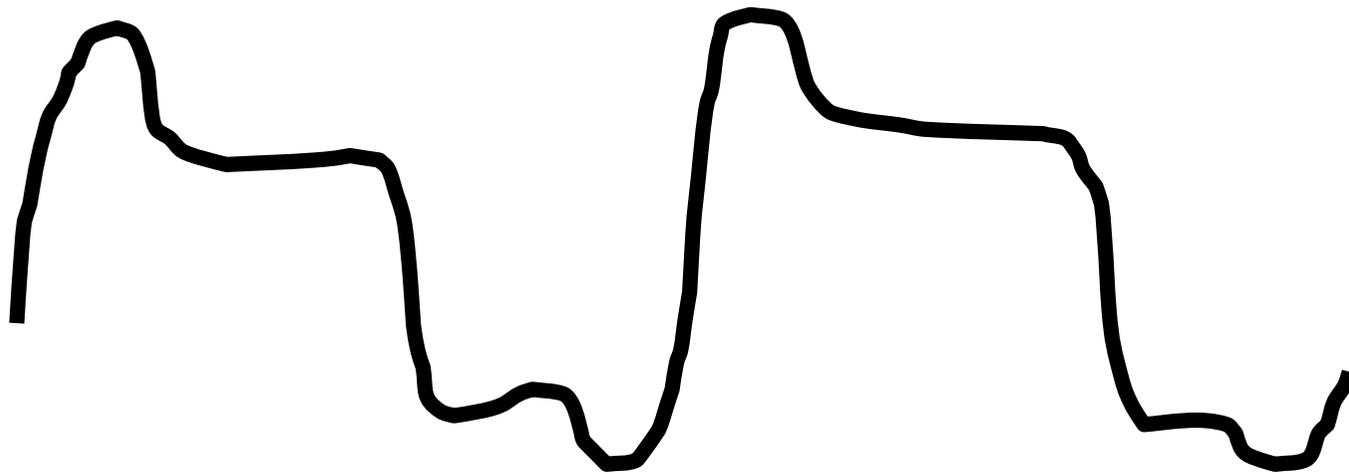


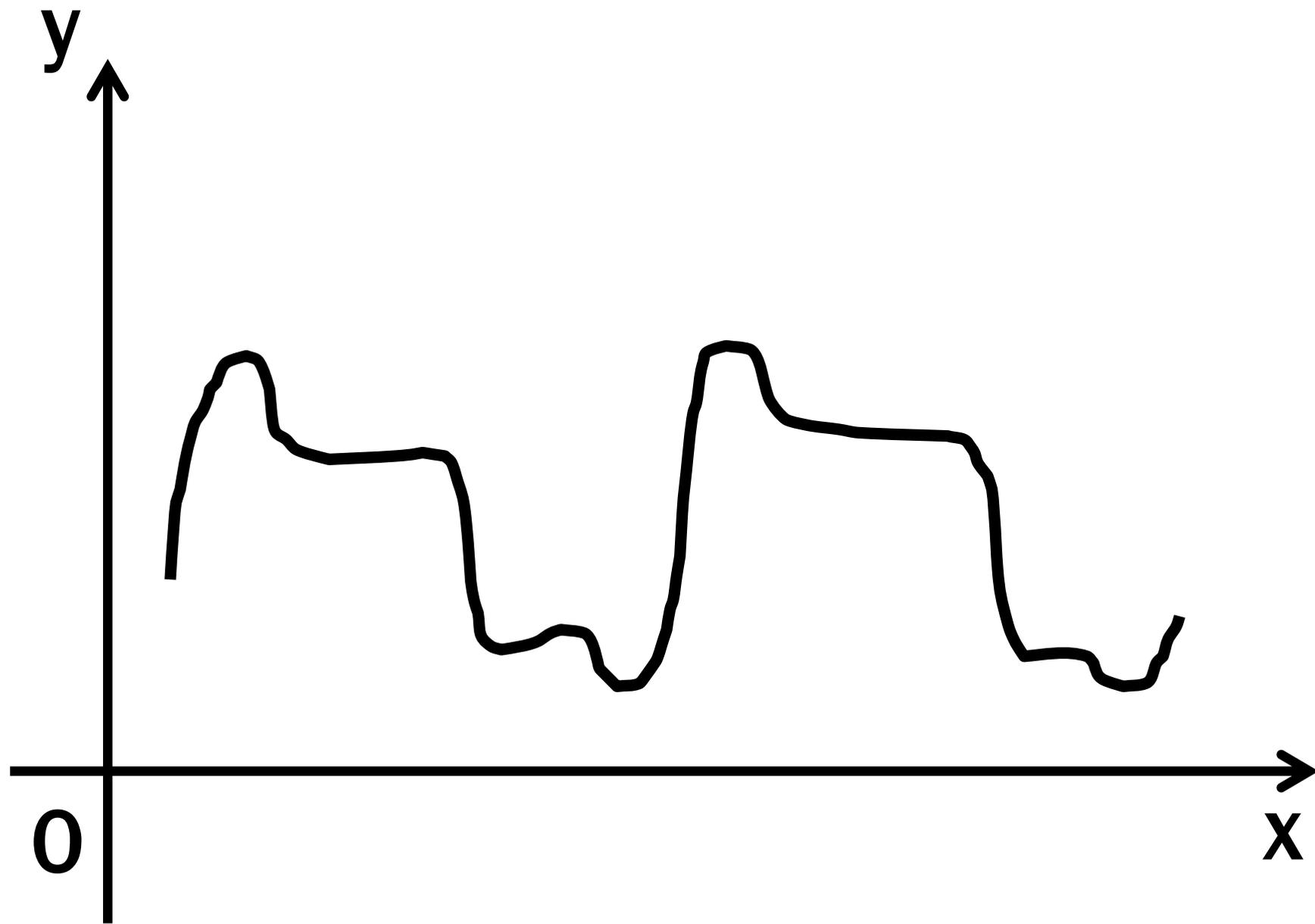


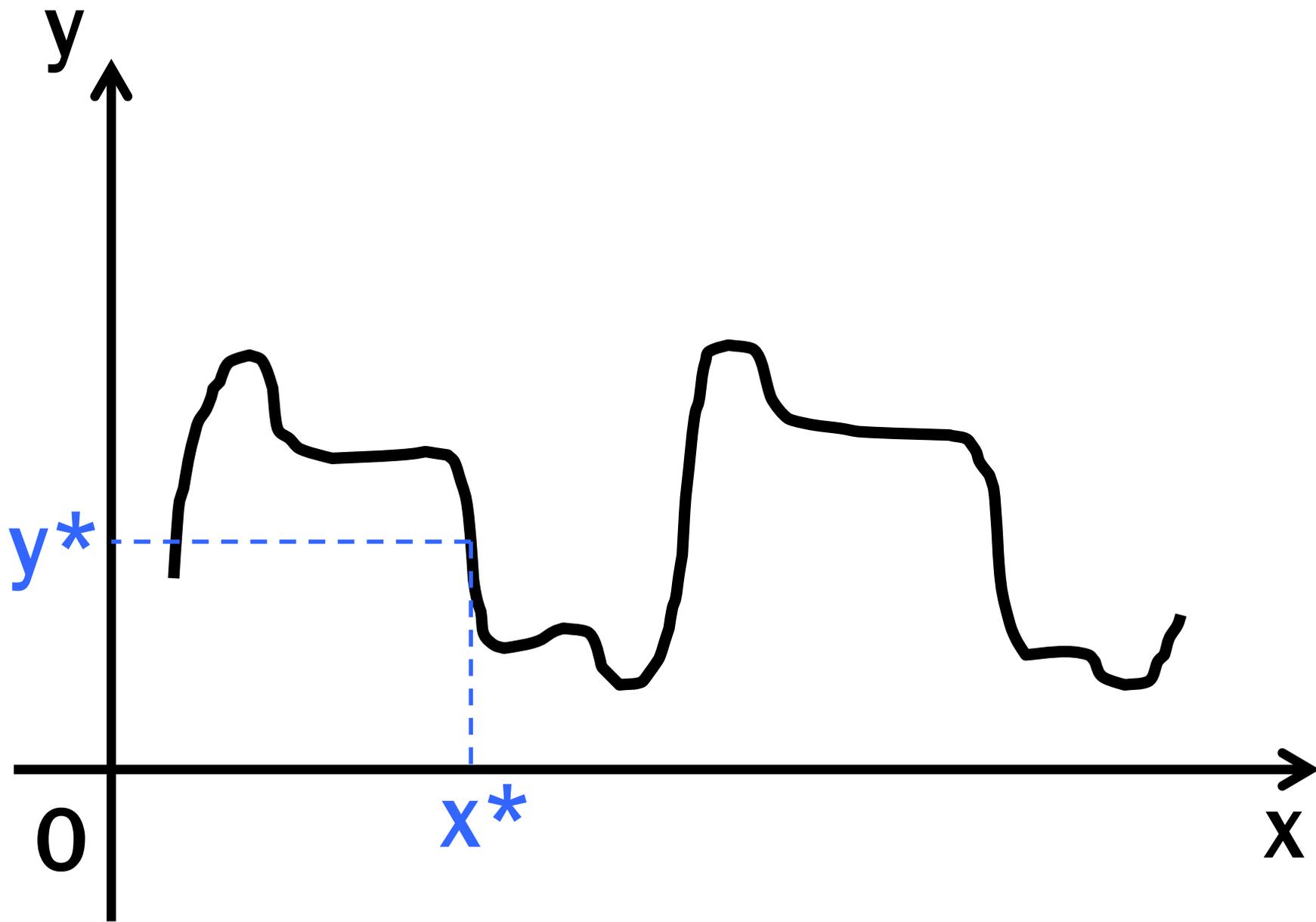


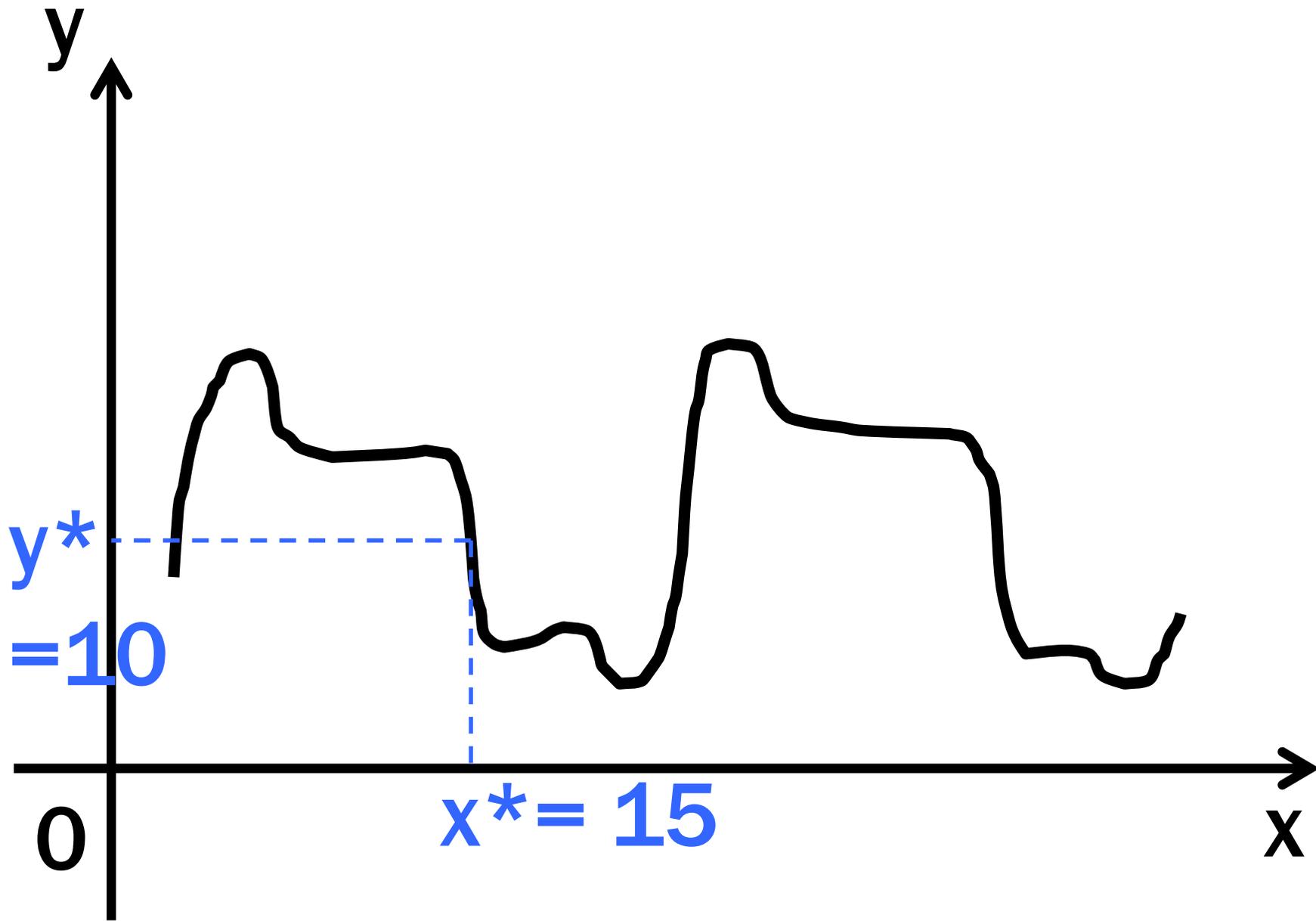
(9,14) position

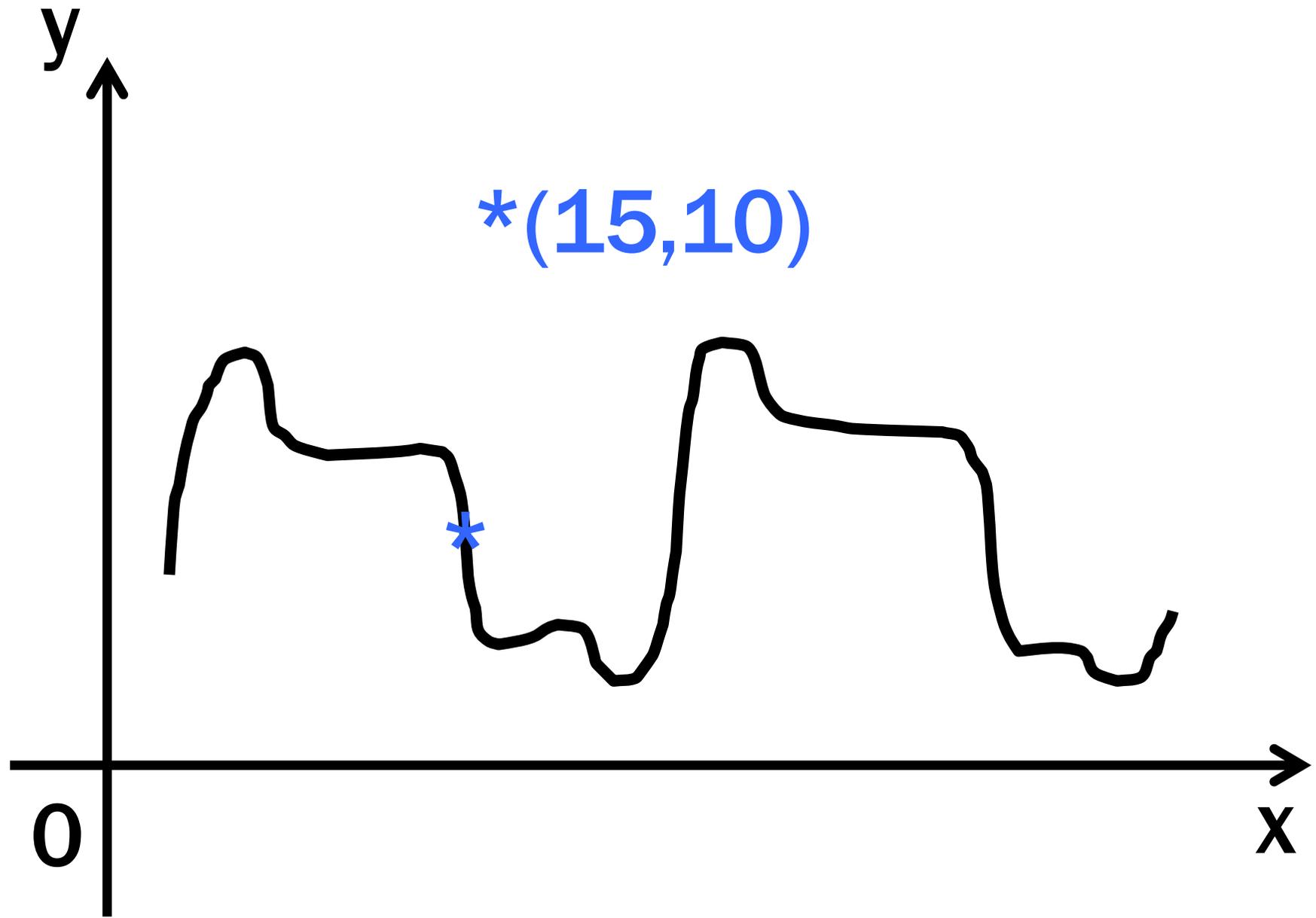
□ (245,133,167) colour

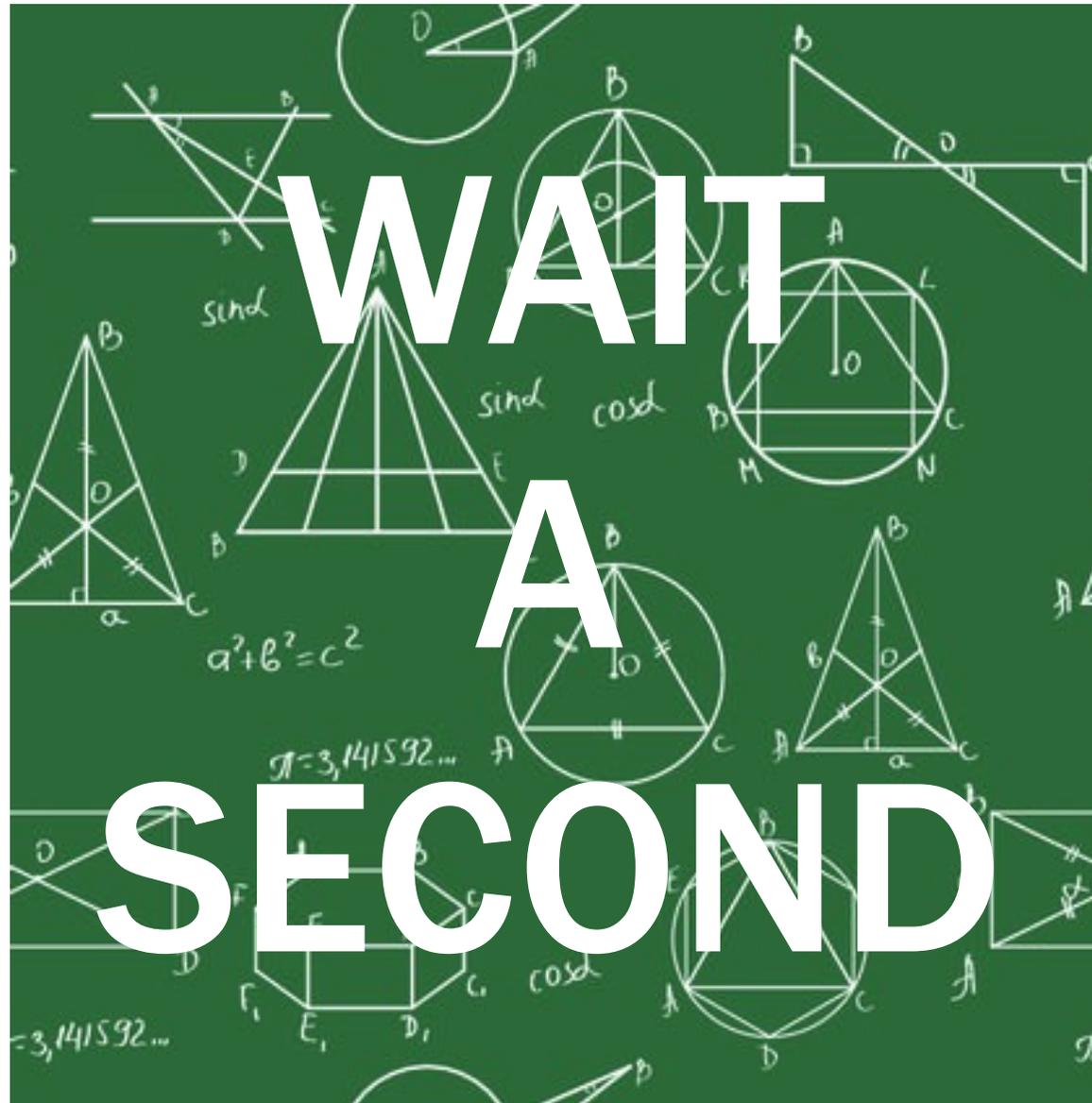








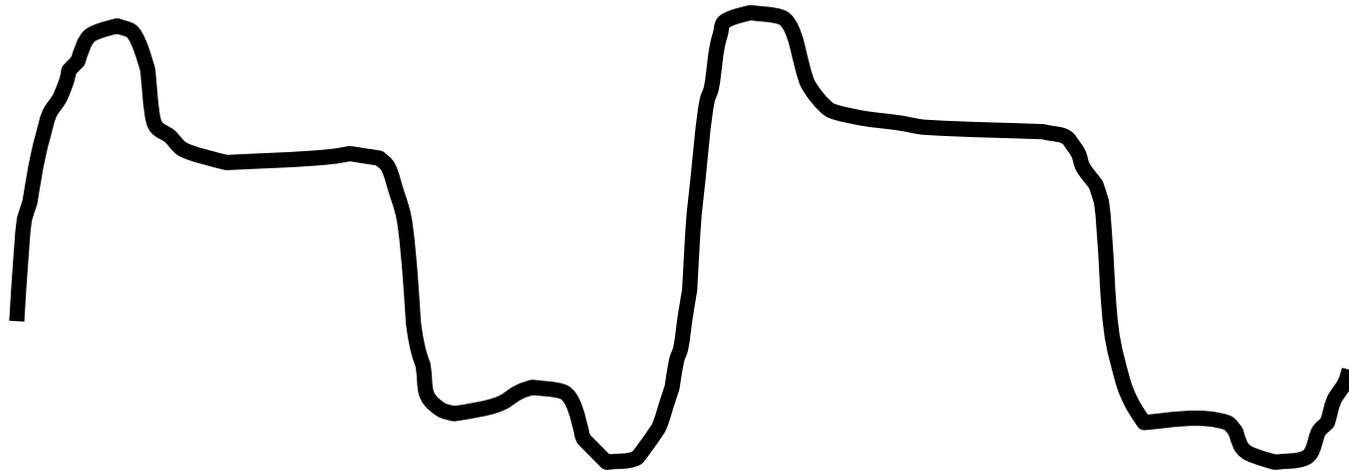




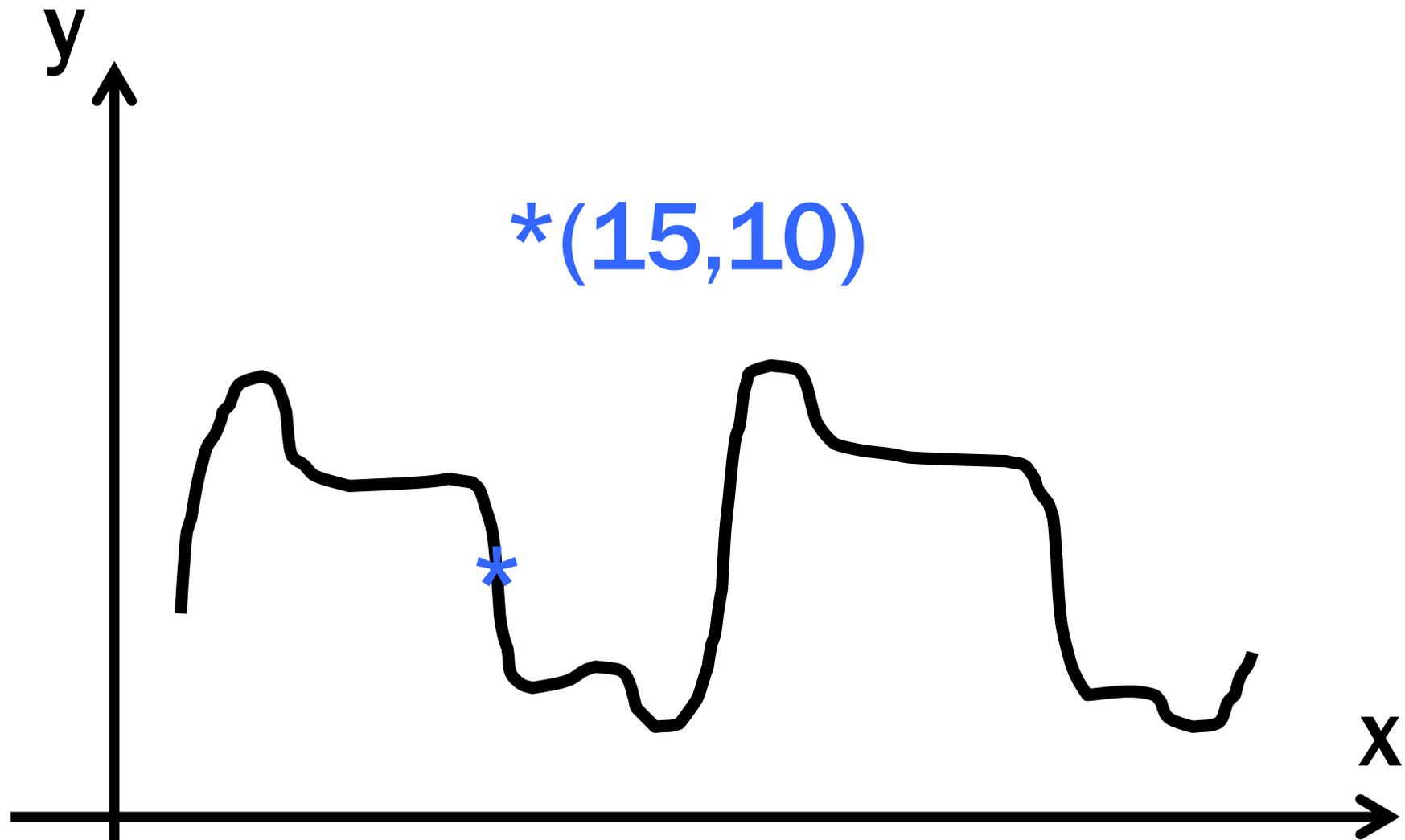
WAIT

A

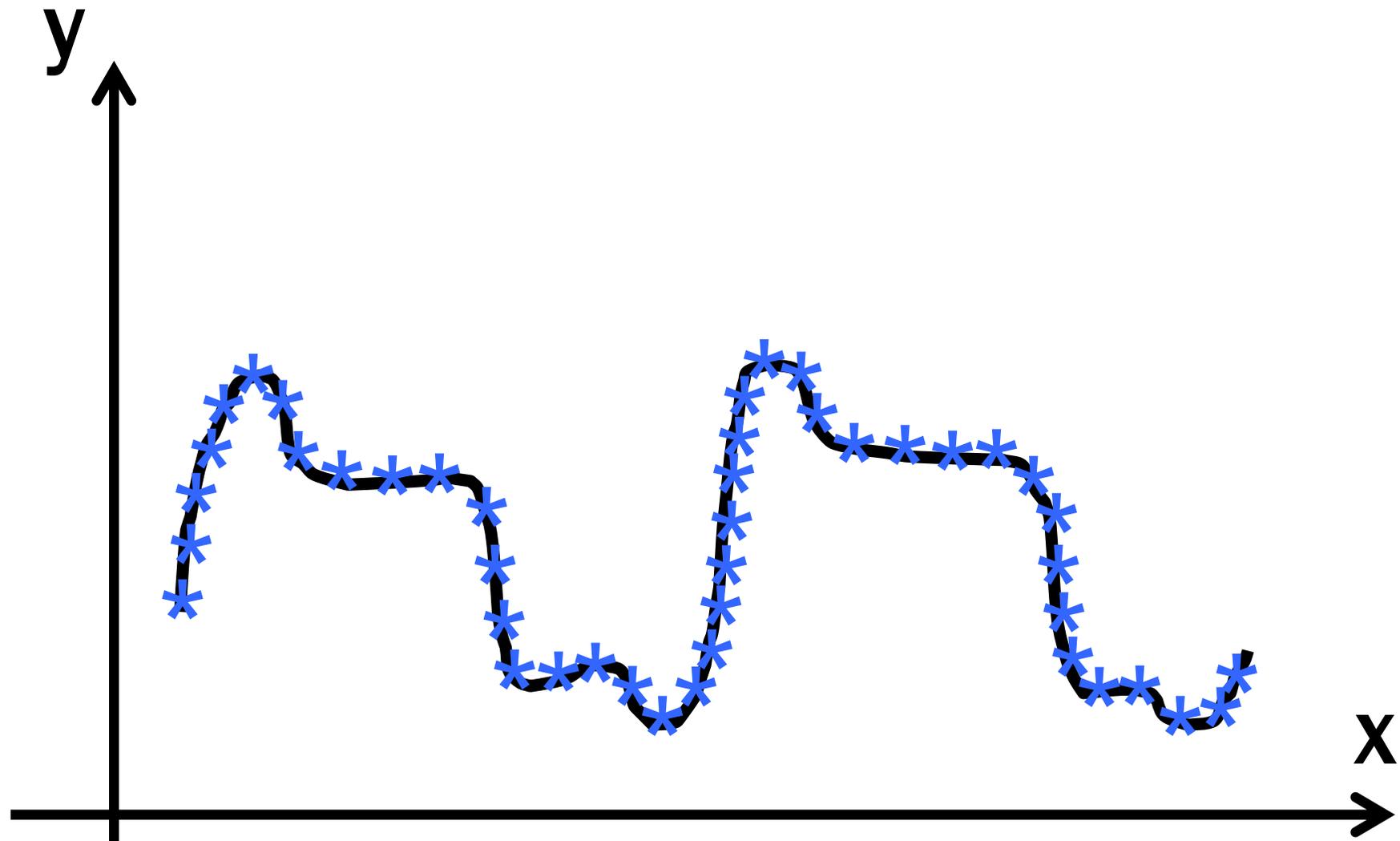
SECOND



GEOMETRY TEACHES US THAT THERE ARE
INFINITE POINTS IN A LINE.



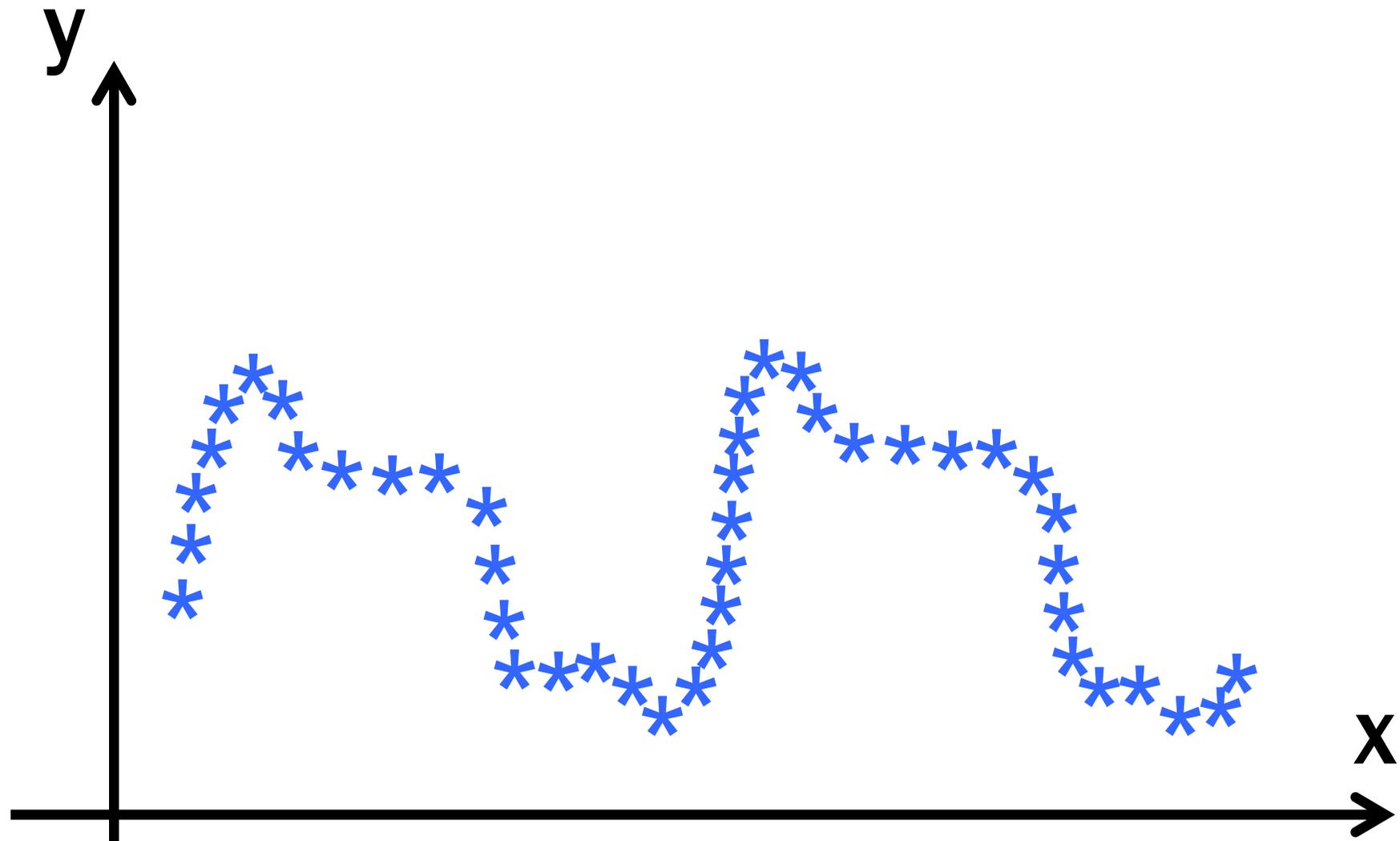
0 CAN WE MANAGE COMPUTING THE (X,Y)
COORDINATES OF AN INFINITE AMOUNT
OF POINTS? **OBVIOUSLY NOT.**



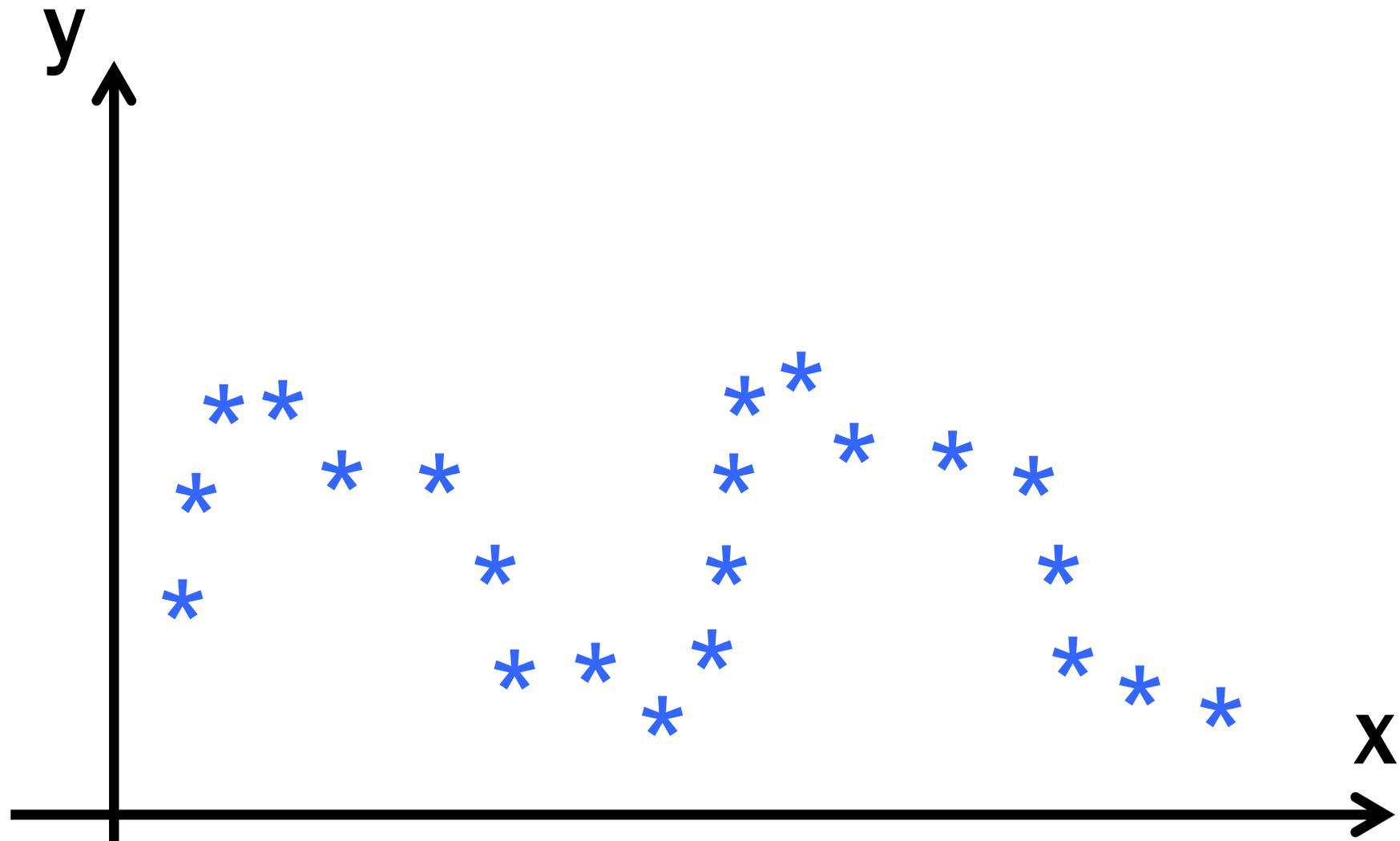
SAMPLING

SAMPLING

- We pick a point on the wave to compute coordinates for only every interval of time
- Each picked point is called a SAMPLE
- The number of samples per unit of time is called SAMPLING RATE
- The higher the sampling rate, the more samples we have
- The more samples we have, the better the numerical description of the wave is

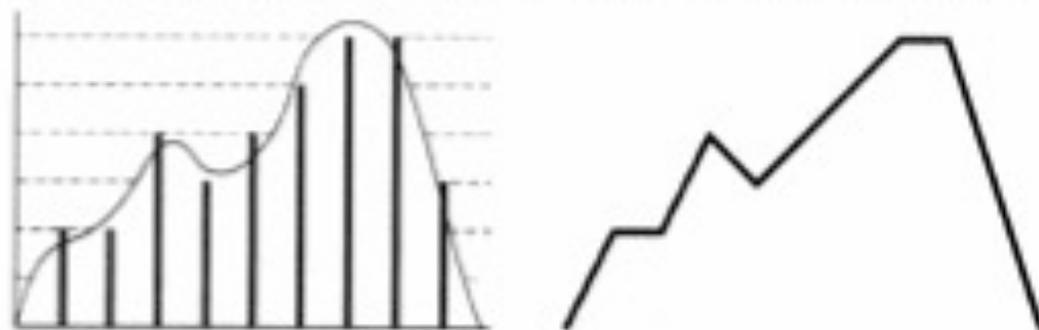


MANY SAMPLES

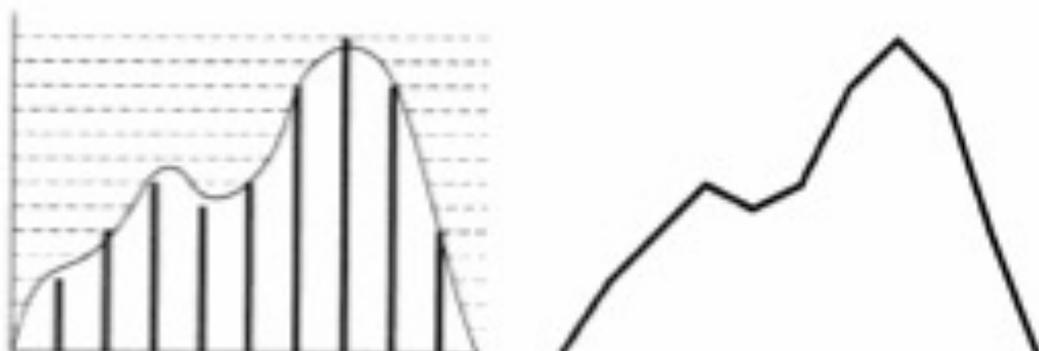


0 HALF SAMPLES

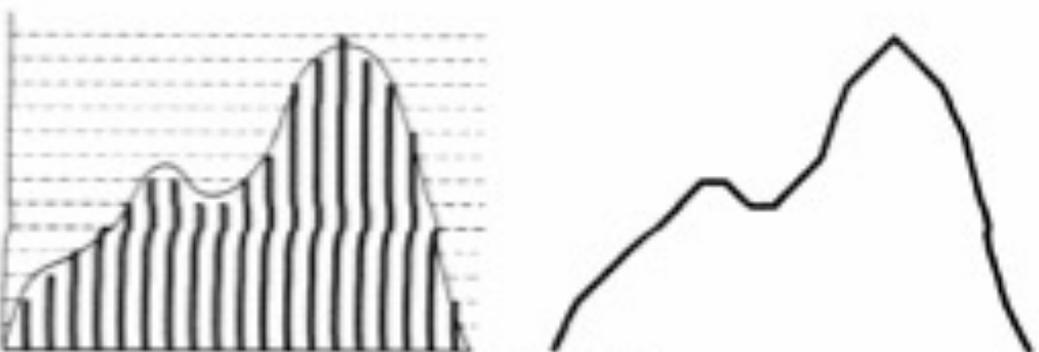
Figure 20 - Effect of Increased Resolution and Sampling Rates



Low Resolution and Sampling Rate



Increased Resolution



Increased Resolution and Sampling Rate

SAMPLING

- We pick a point on the wave to compute coordinates for only every interval of time
- Each picked point is called a SAMPLE
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SAMPLING

numerical description

(1, 23) (2, 30) (3, 28)
(4, 30) (5, 29) (6, 35)
(7, 37) (8, 22) (9, 18)
(10, 13) (11, 8) (12,
2) (13, 4) (14, 8) (15,
10) (16, 18) (17,
20)...

DIGITAL IMAGES: MONITORS



DIGITAL SOUNDS: ?

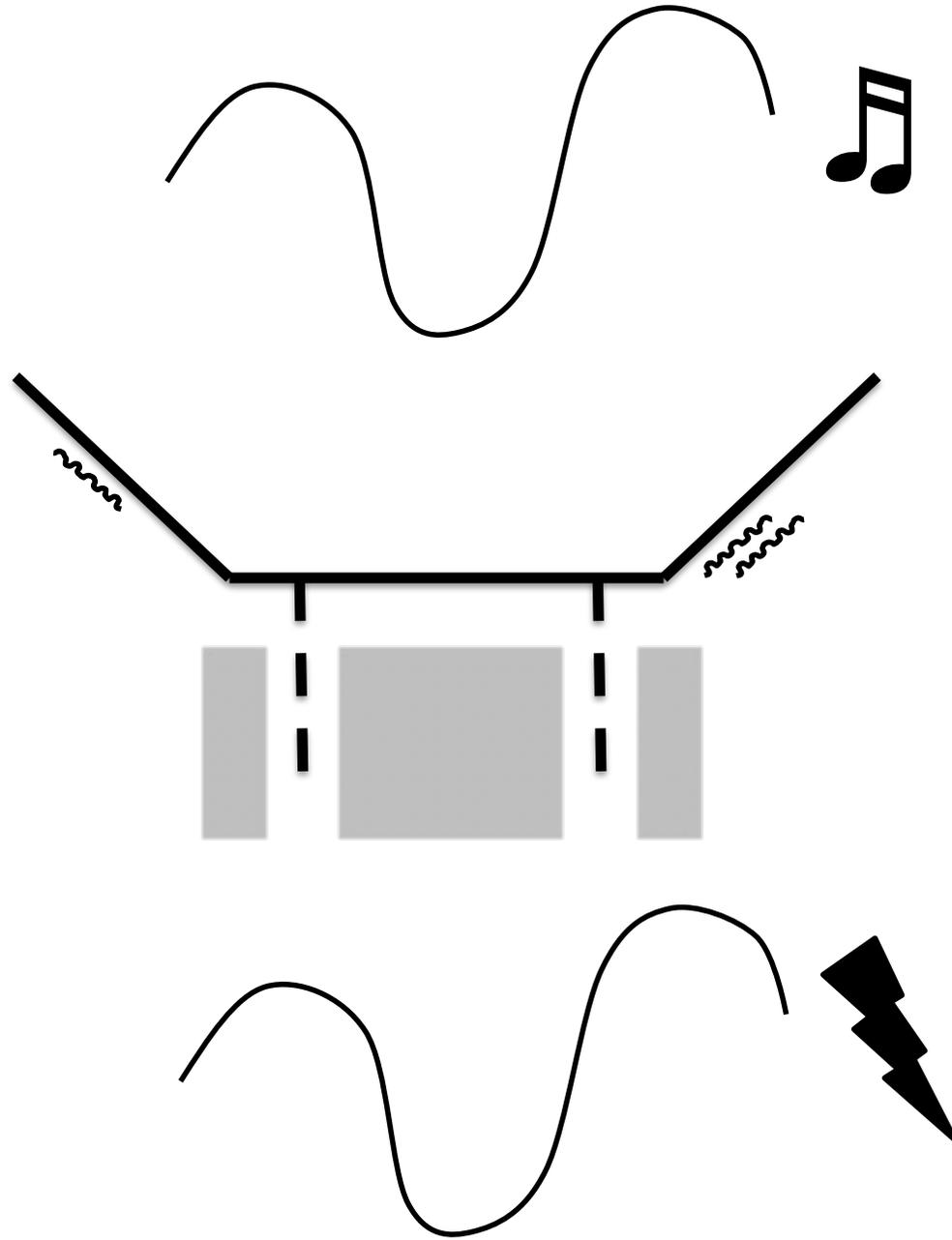
DIGITAL SOUNDS: LOUDSPEAKERS

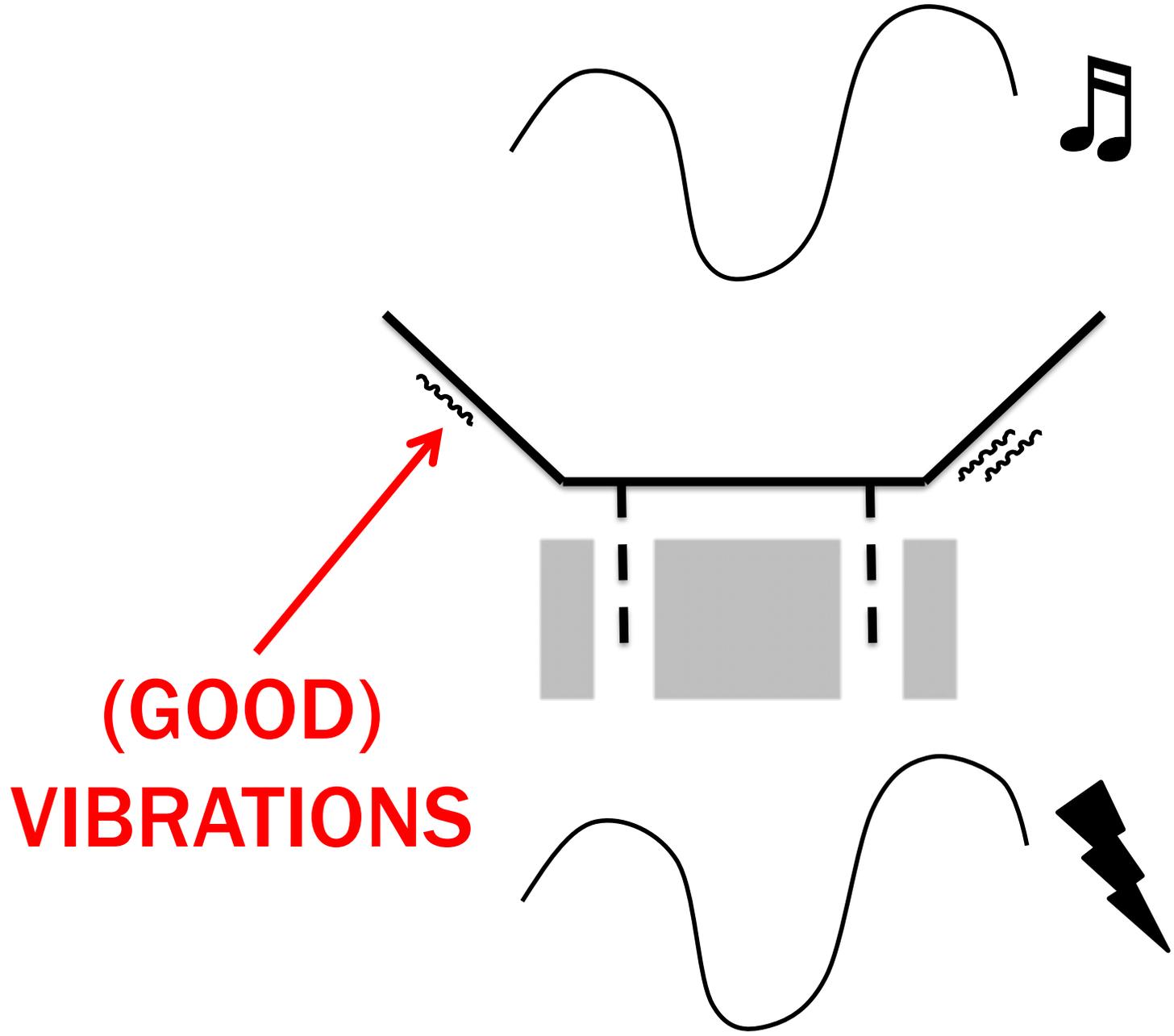


THE NEED FOR HARDWARE

- As it always happens, digital technology needs physical tools that convert numbers into physical phenomena

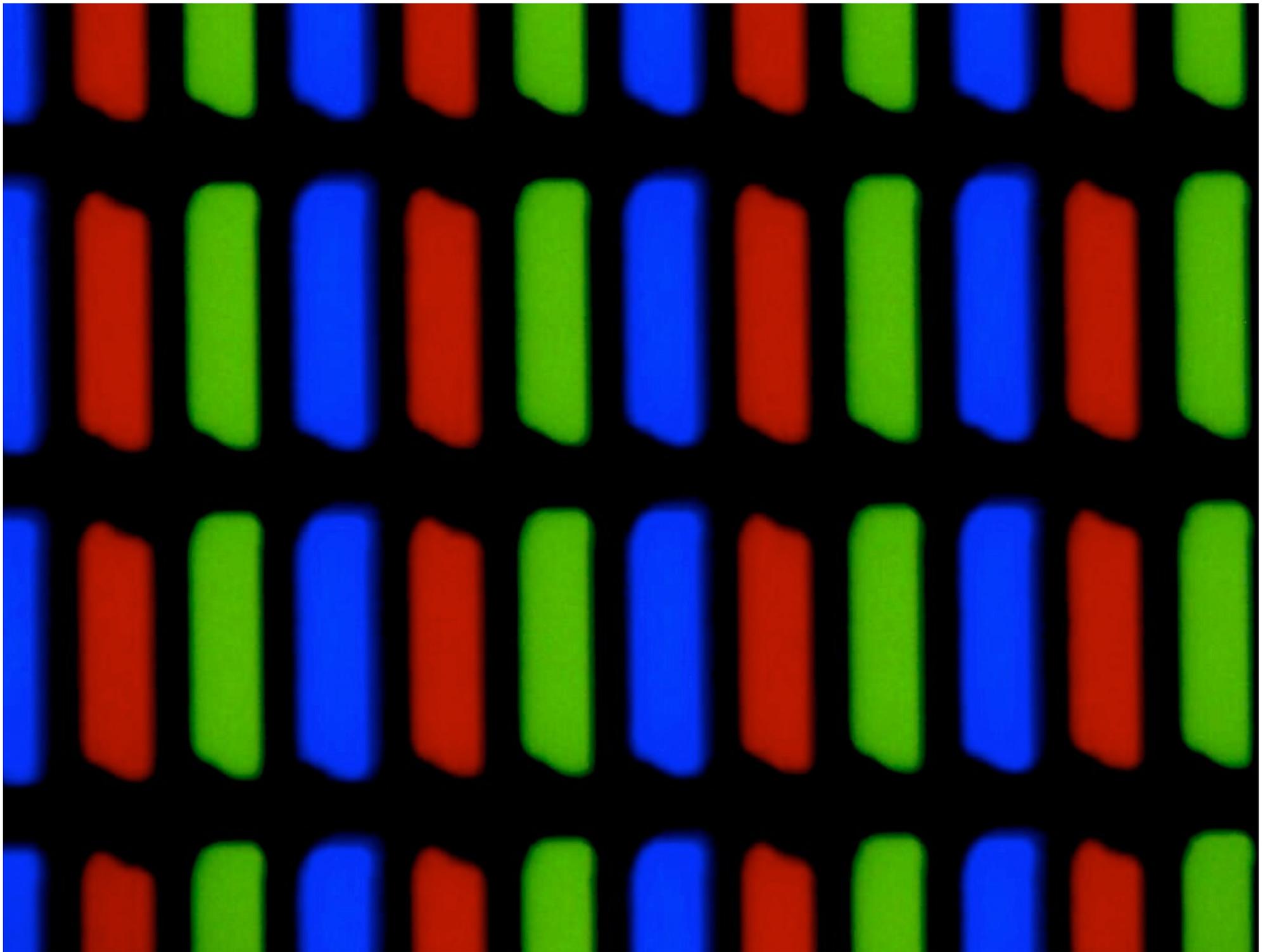




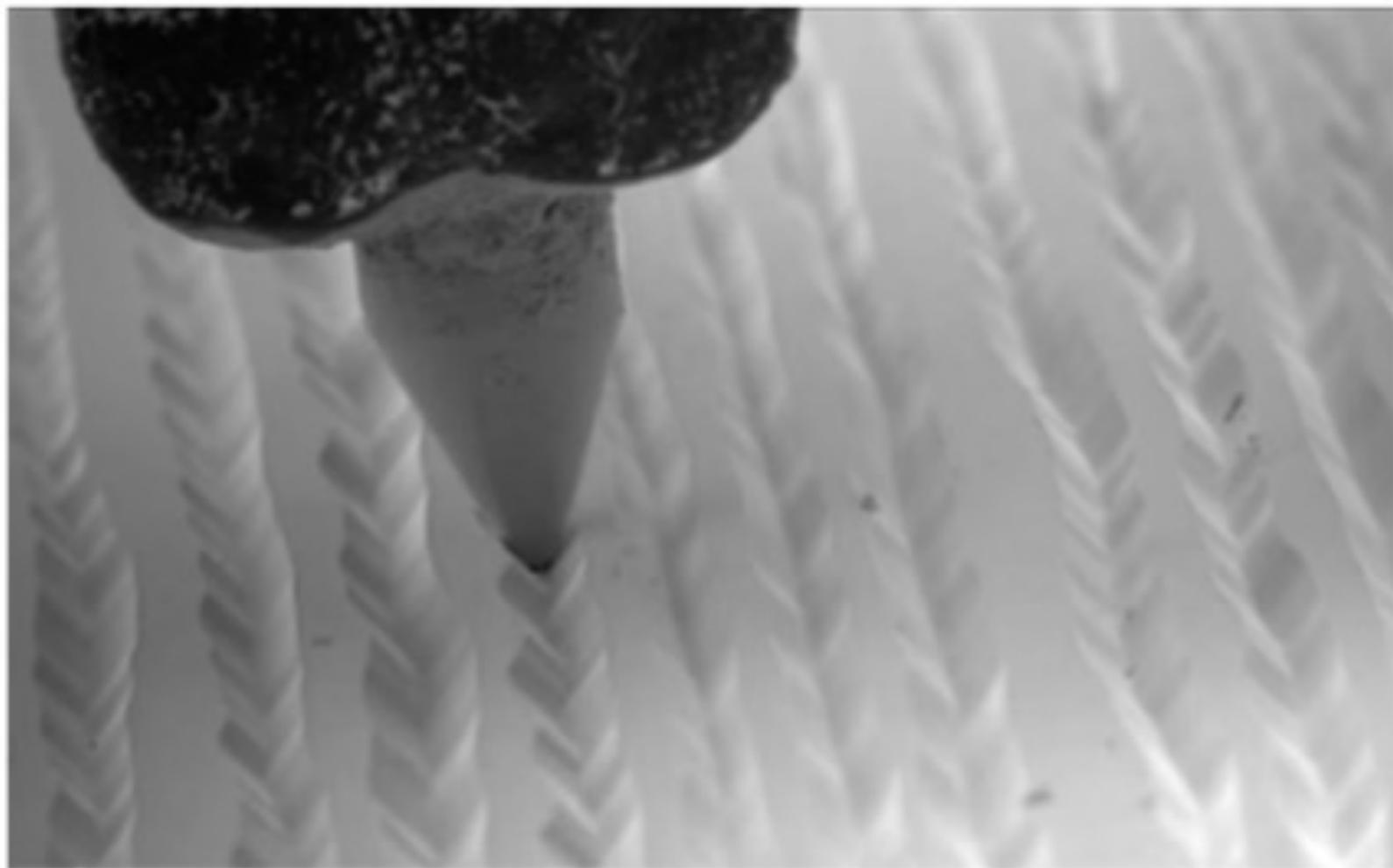


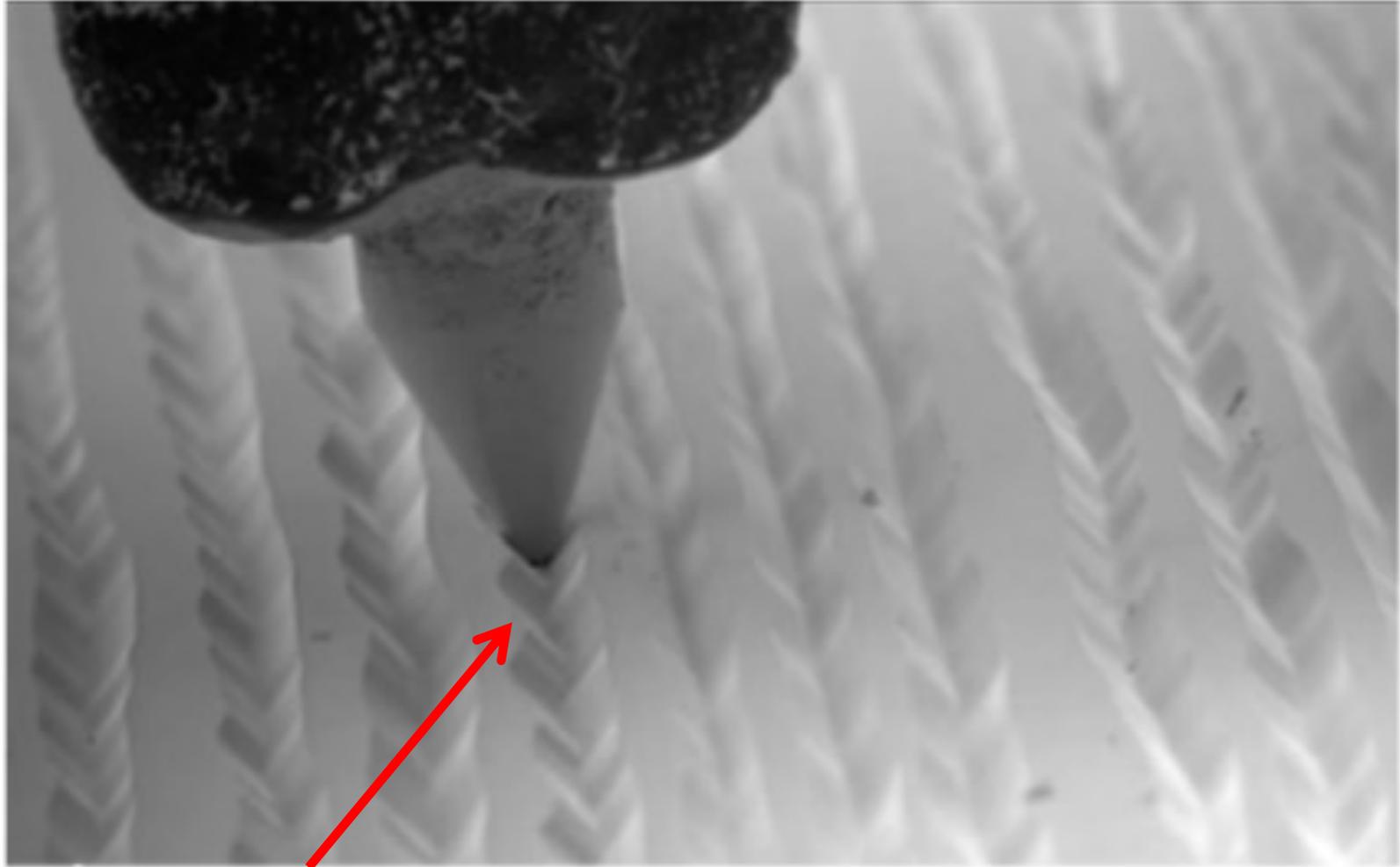
**(GOOD)
VIBRATIONS**



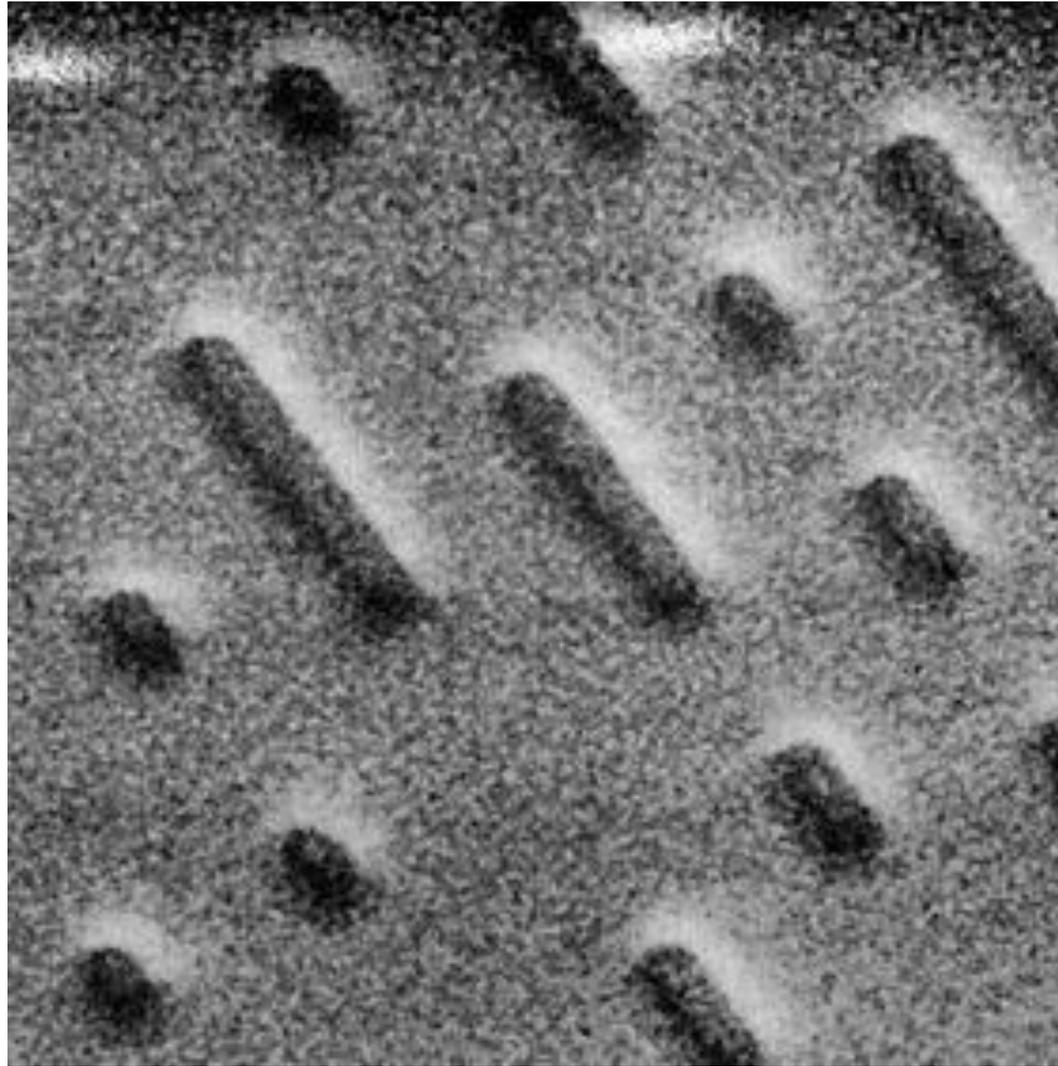


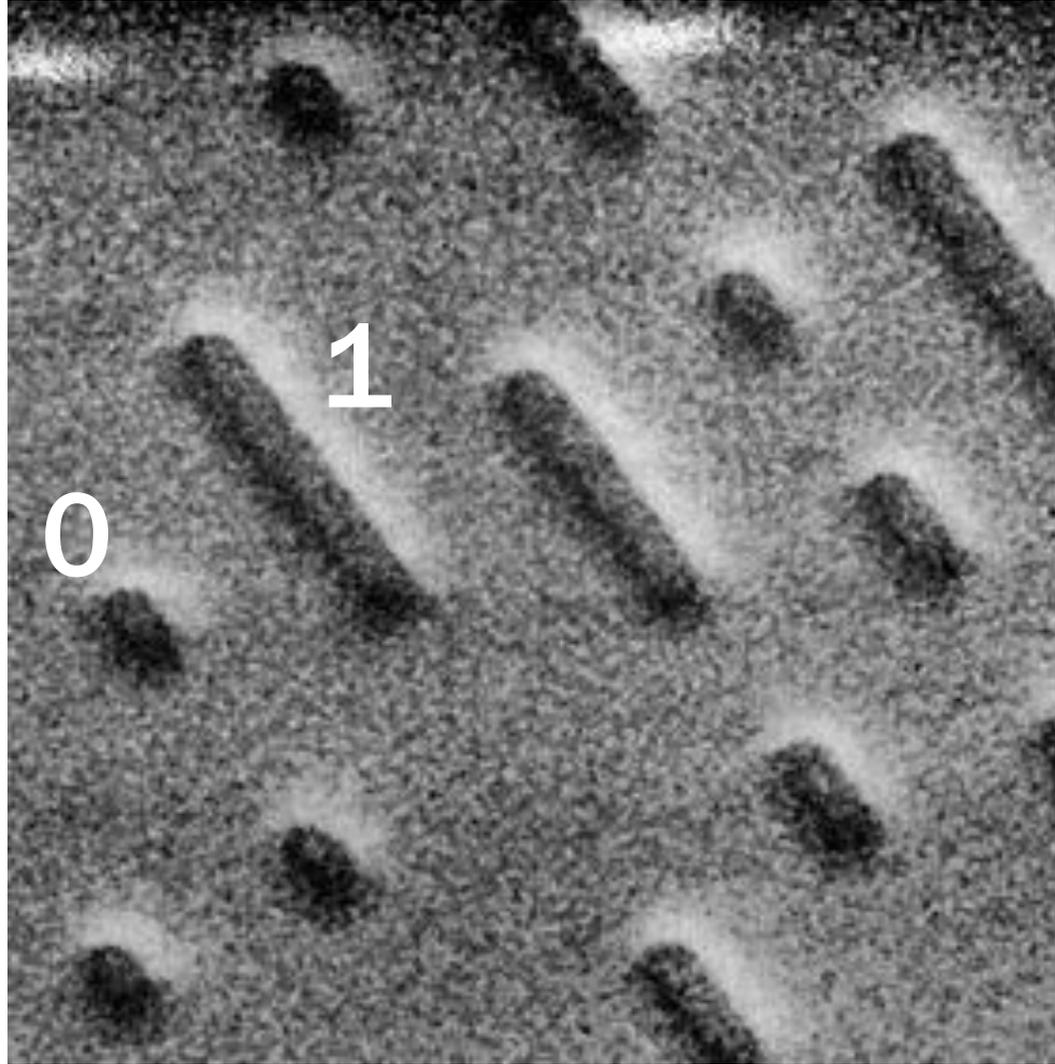














MUSIC IS A PROOF THAT
THERE IS NO REAL DIVIDE
BETWEEN ANALOG
AND DIGITAL TECHNOLOGY

bibliography

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webgraphy

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