

Media in Mind

Greg Fantham

Heriot-Watt Online

Heriot-Watt Online

MSc Business Psychology

- 100% online
- Global
- Asynchronous
- No tutor presence
- Non-cohort

Kara Johnston

Naomi Holwill

Lucy Kendra

Colin Morris

Conrado Silva de Farias

Alex Lumsden

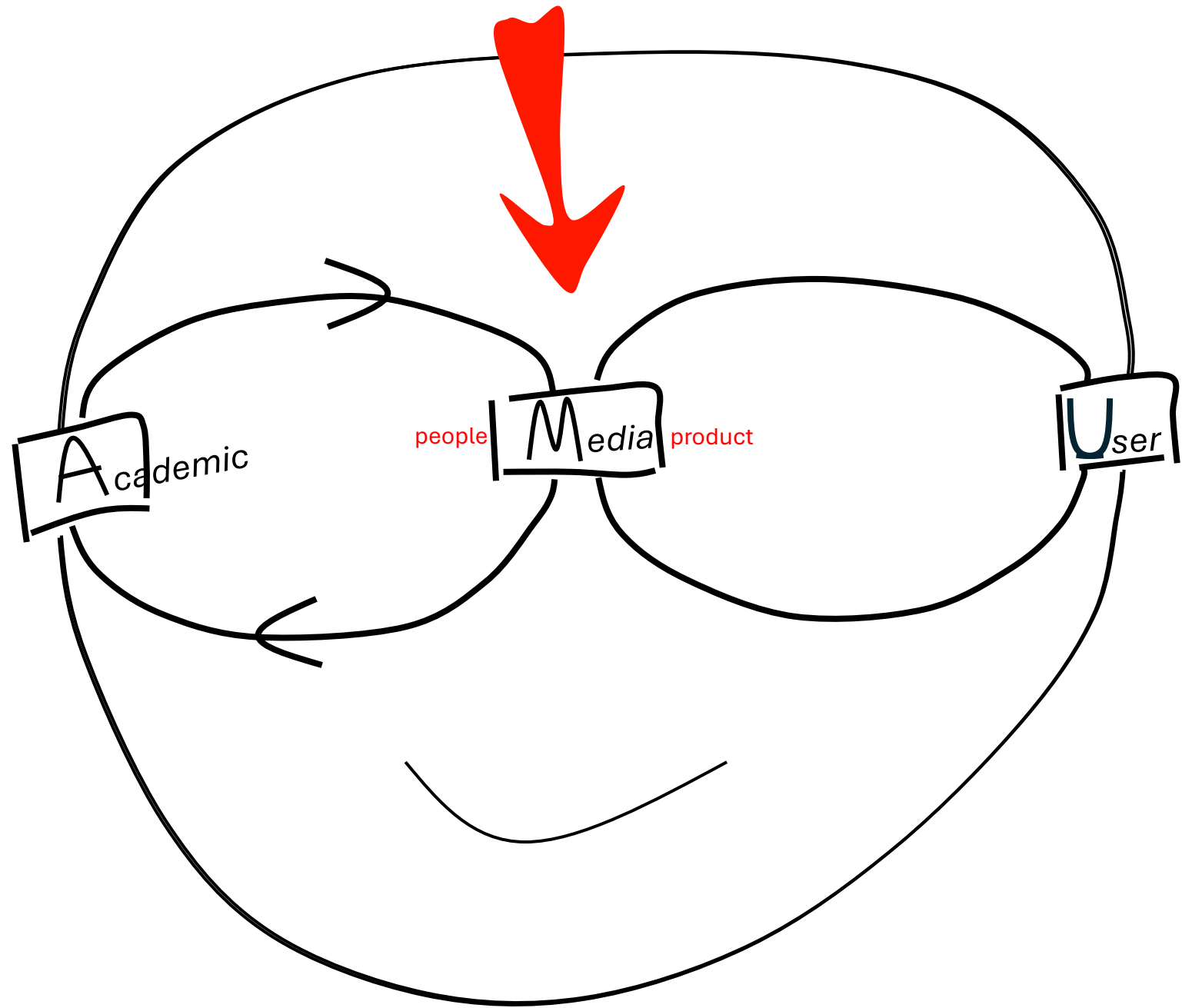
Roddy Munro

James Igoe

Susanne Macleod







Media *is how we think*

in

Mind

broad definition

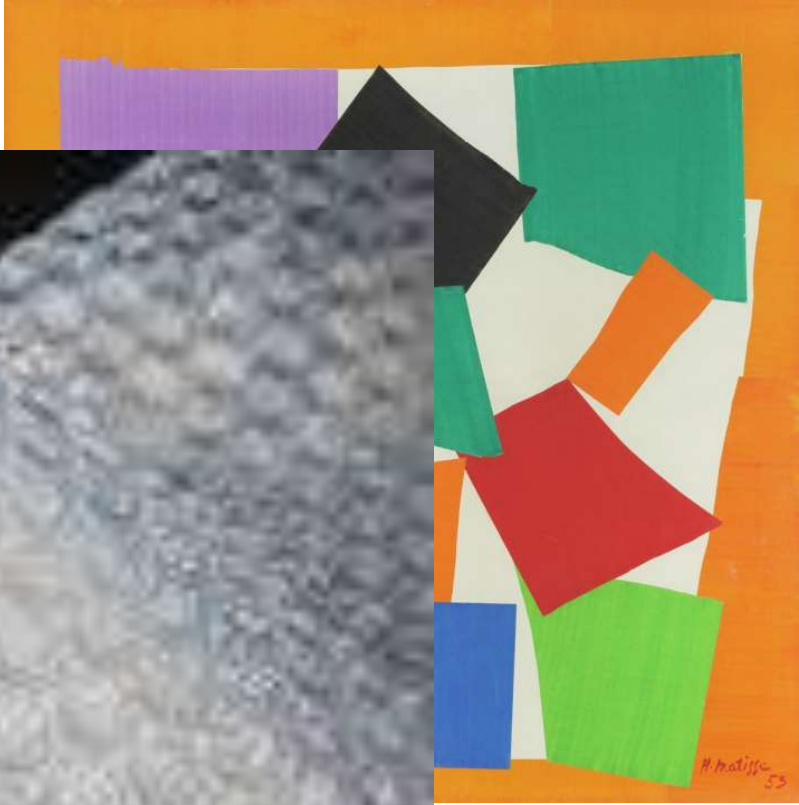


Media



Media





Media



Media



is embedded in "academic" theory



... infused in the theory

scientific



psychology

Mind

Each slide (12 in all) has a question about a word

For each question:

- write the number of the question
- then write Y or N next to it,
depending on whether your answer is Yes or No

1 practice

Is the word in upper case?

BALL

1 Y

2 practice

Does the word rhyme with pencil? **blood**

1 Y

2 N

3 practice

Do you like to ...?

drive

1Y

2N

3Y

READY

1

Do you like to ...?	RUN
---------------------	------------

2

Is the word in upper case?

ink

3

Can you ...?	SING
--------------	-------------

4

Does the word rhyme with pencil?

head

5

Are you ...?	angry
--------------	--------------

6

Is the word in lower case?

sea

7

Does the word rhyme with toil?

BOIL

8

Is the word in upper case?	LOW
----------------------------	------------

9

Are you ...?	tall
--------------	-------------

10

Does the word rhyme with fan?

MAN

11

Is your name ...?	BILL
-------------------	-------------

12

Does the word rhyme with hair?

CHOOSE



Media



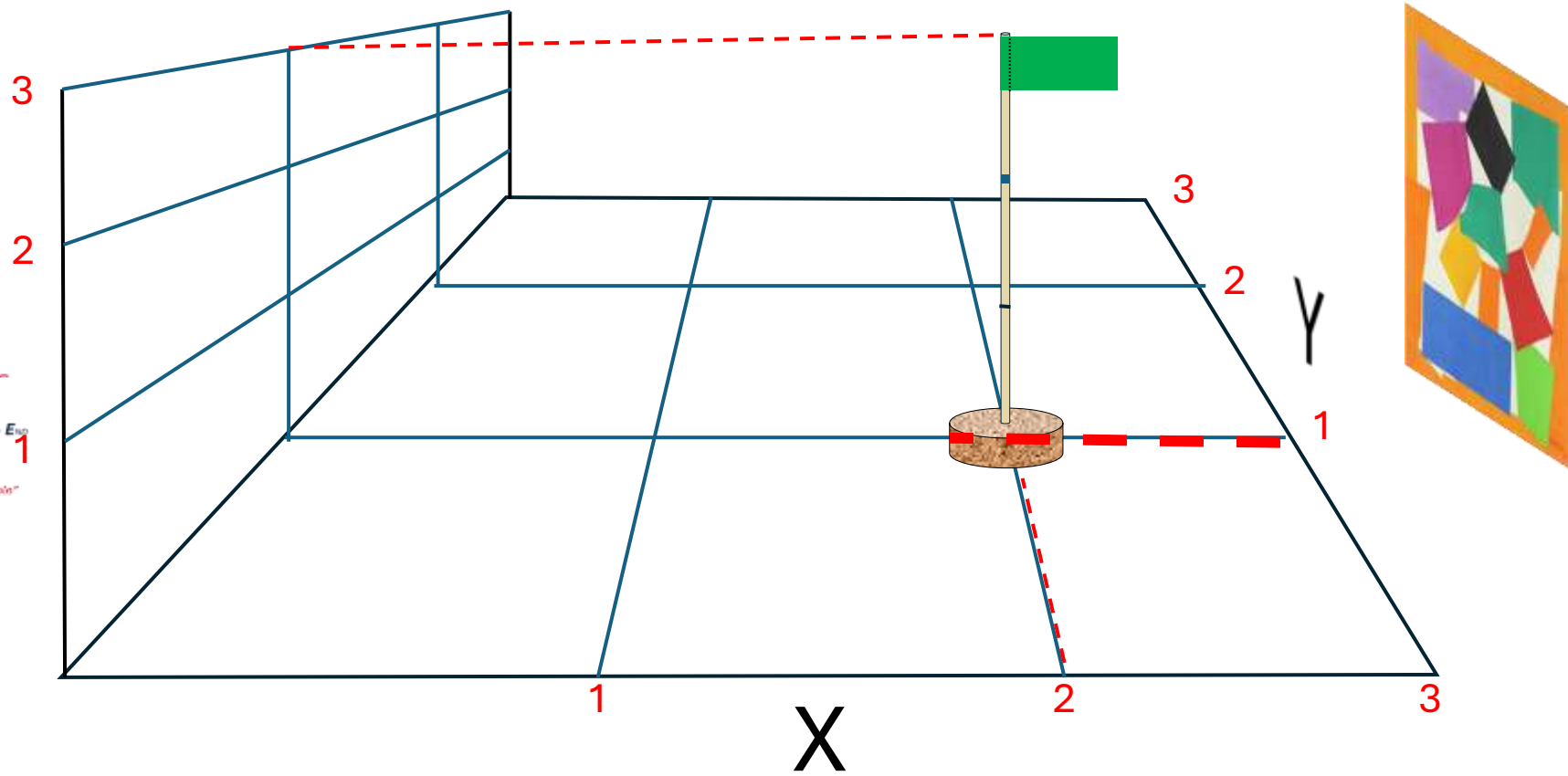
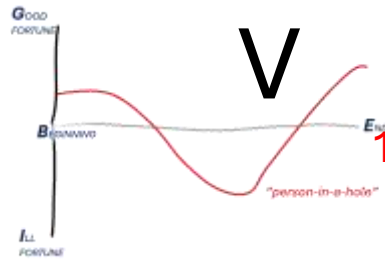
is embedded in "academic" theory



... infused in the theory

scientific

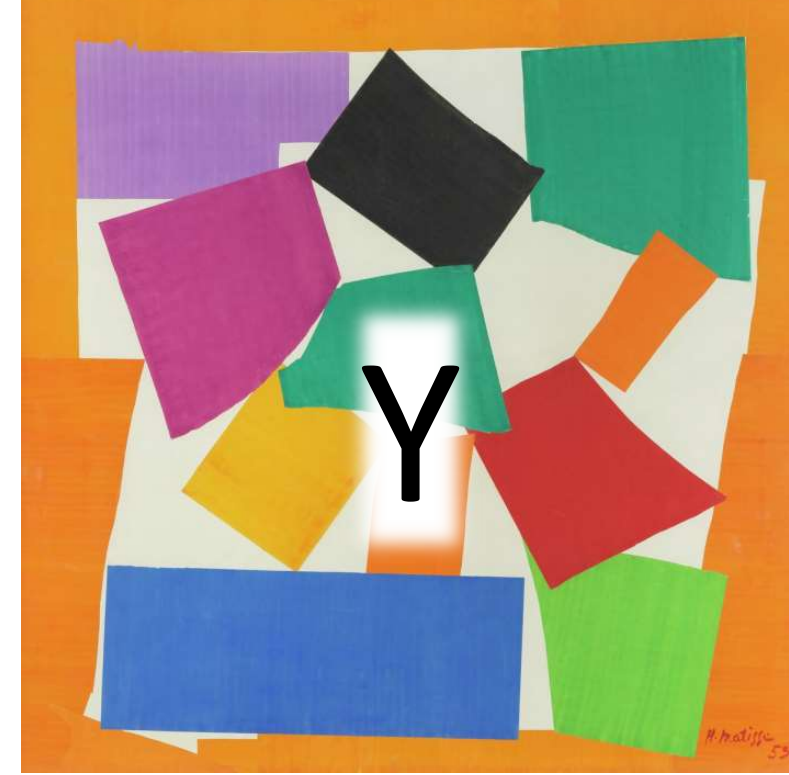






V

Media

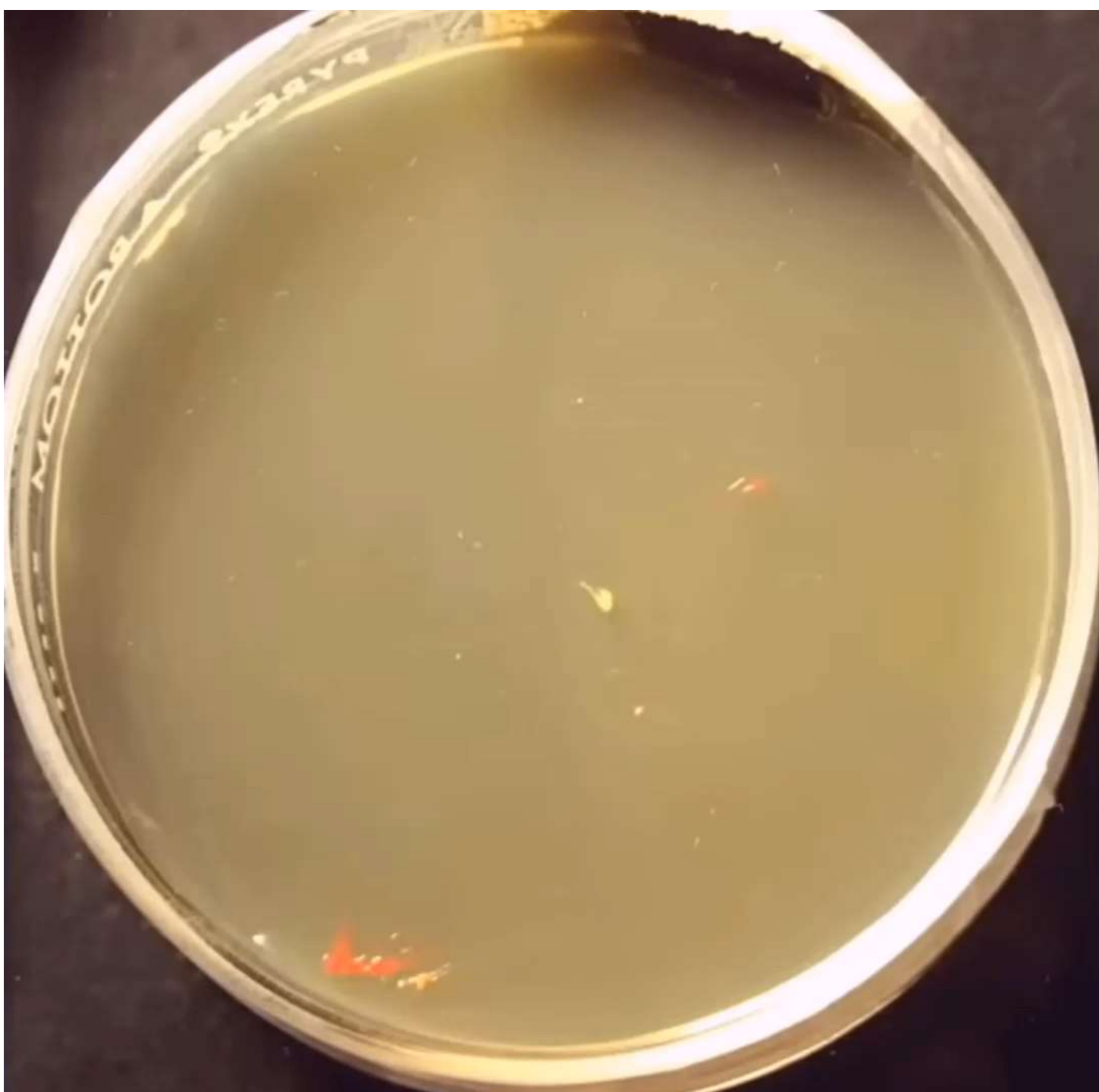


Y



X

Medium



<https://www.youtube.com/watch?v=P2pjbwM3Kjl>

X

Medium



The **X** factor

Medium



*I could do that ...
You only have to walk straight
I can walk straight
Go on, give us a job
Go on give us a go
I could put the nets up as well.*

Y

“osser”



Episodic = story

GOOD
FORTUNE

BEGINNING

ILL
FORTUNE

Kurt **V** onnegut

END

“person-in-a-hole”



GOOD
FORTUNE

B
BEGINNING

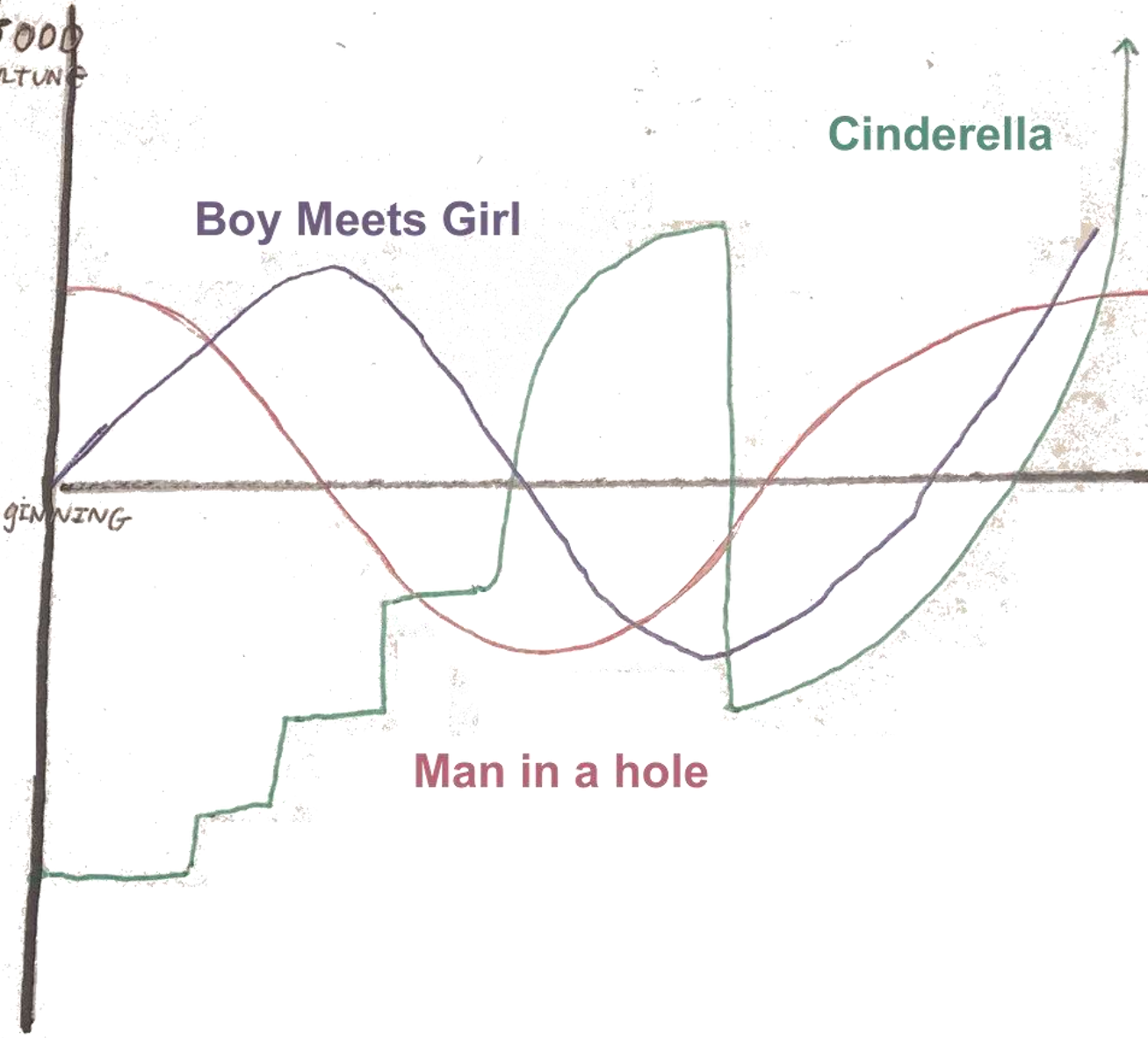
E
END

ILL
FORTUNE

Boy Meets Girl

Cinderella

Man in a hole



Rate the following in terms of X, Y, and V on a scale of 1-3



Plato/Socrates

X Chemistry – nutrient – affordance



Feynman diagrams

Y I could do that (feeling of ...)

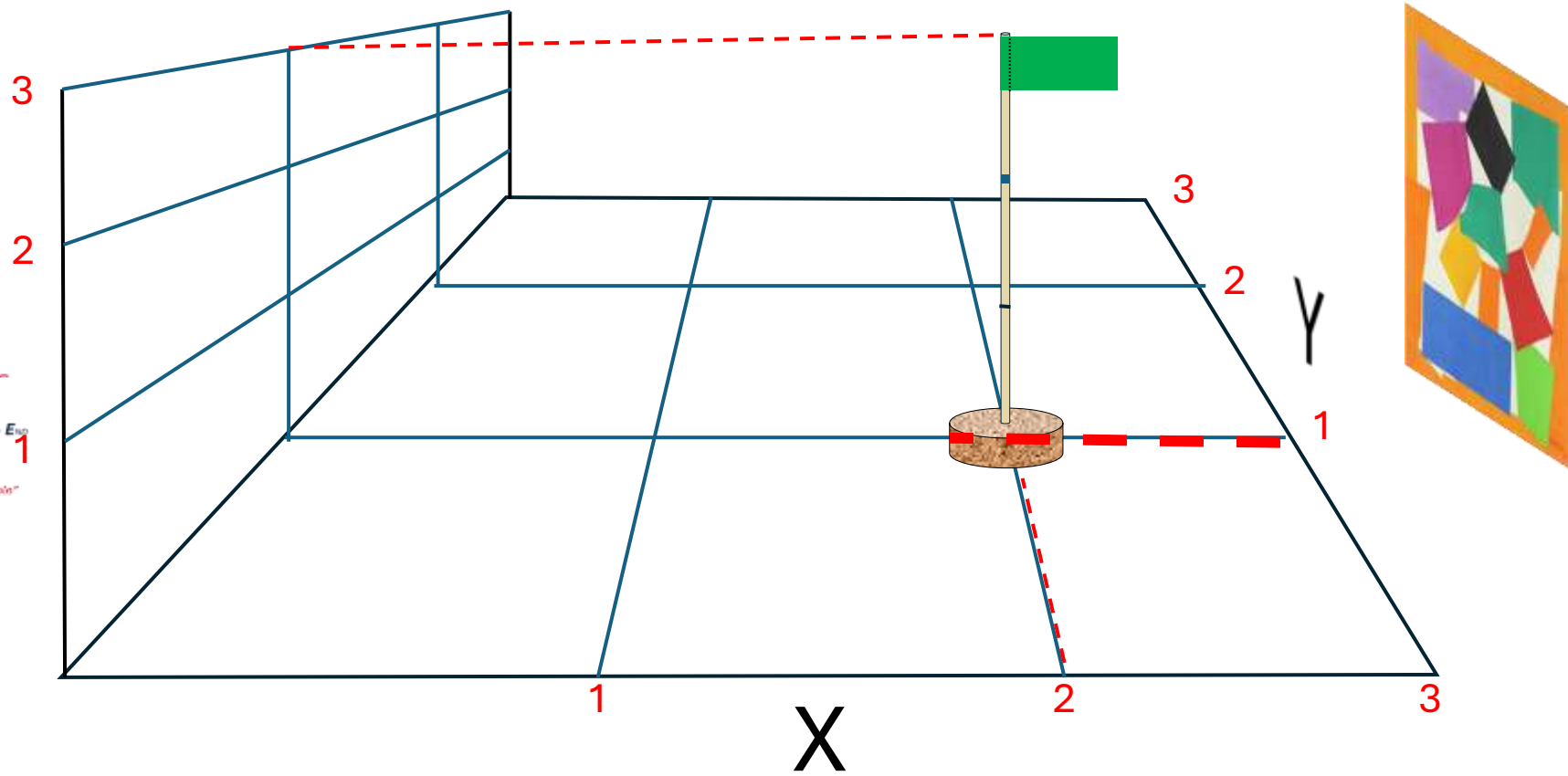
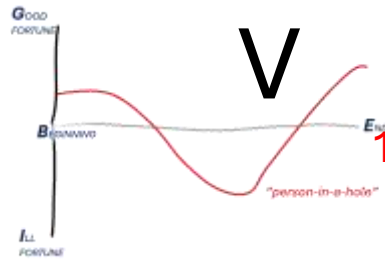


Social Identity Theory

V Story devices

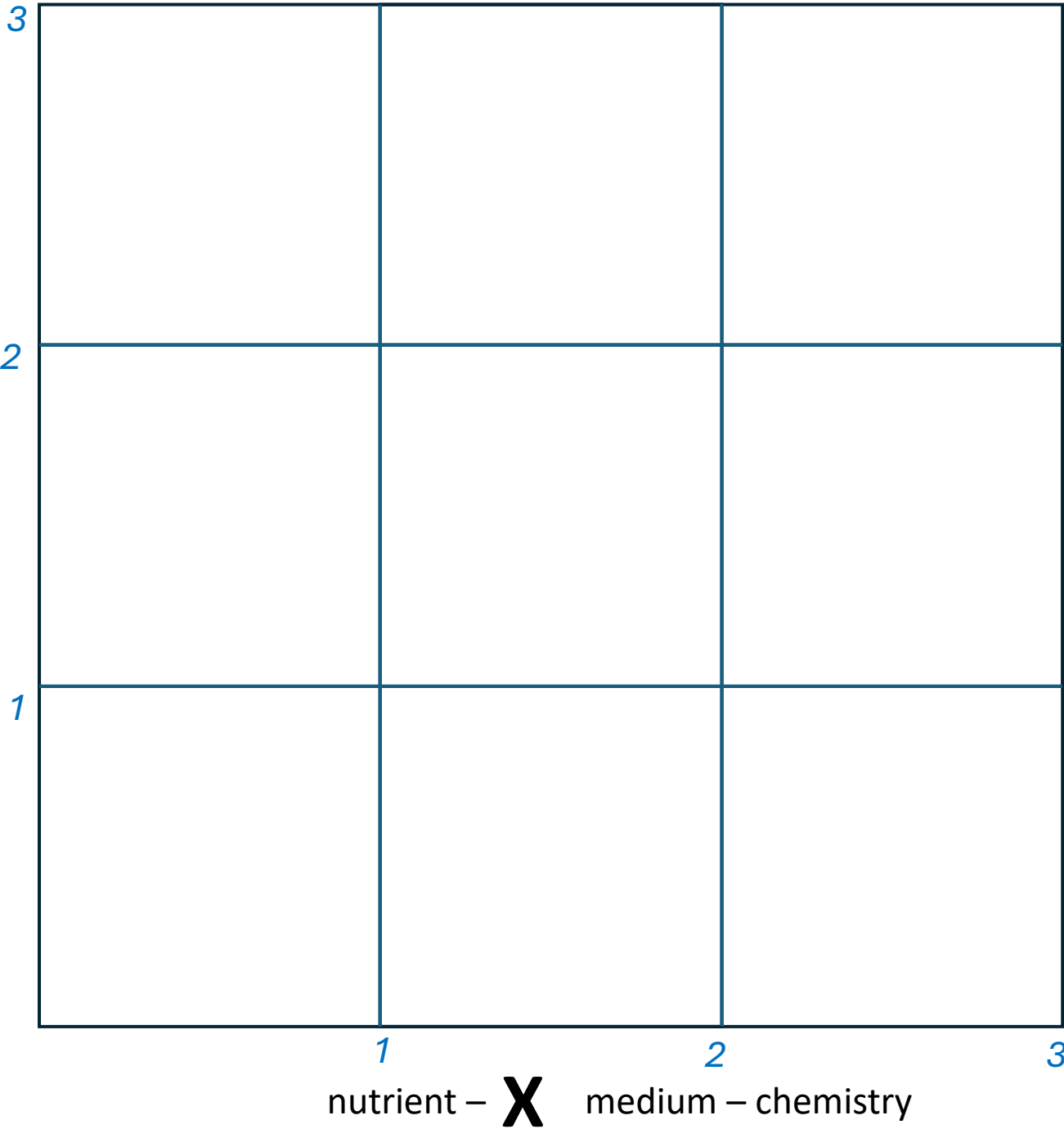


Skinner box



Wh**Y** not

I could
do that





Innate ideas

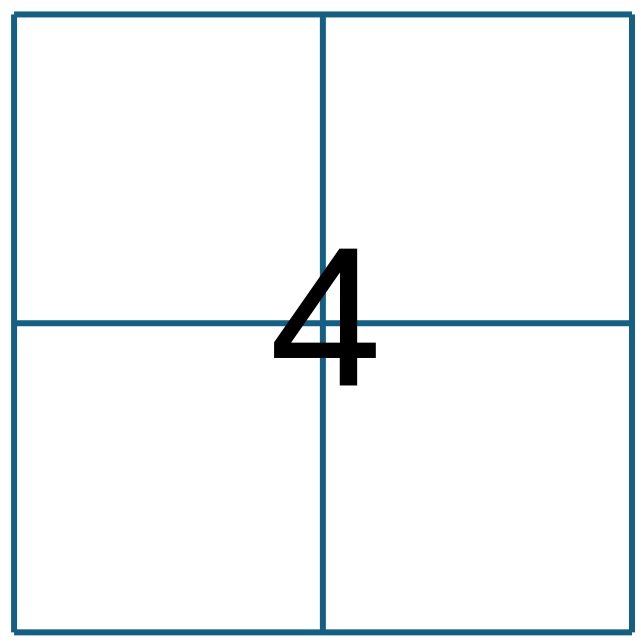


I'll demonstrate this slave boy **already knows** Pythagoras' theorem,





2

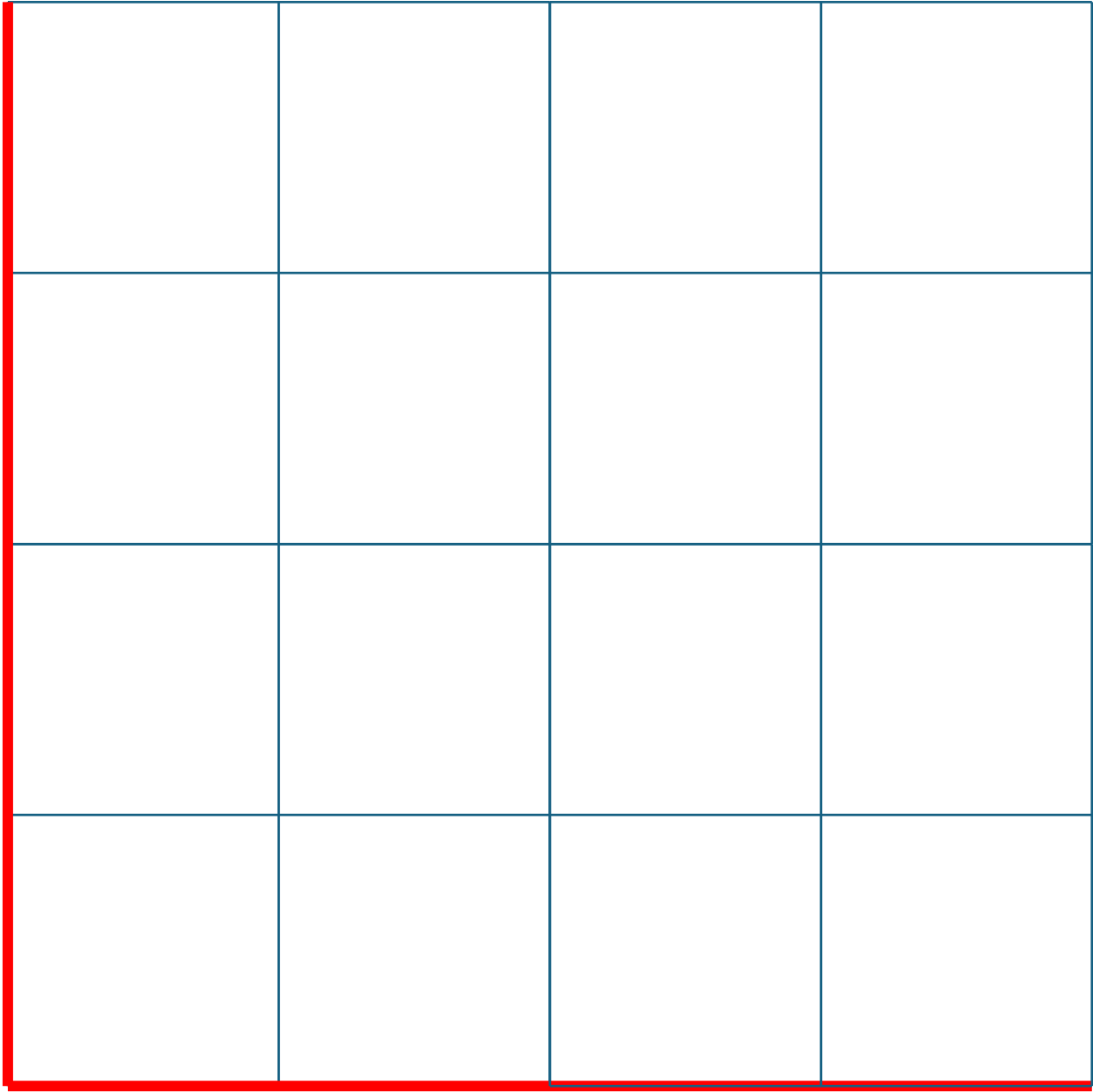


4

2



Now, double the area



8

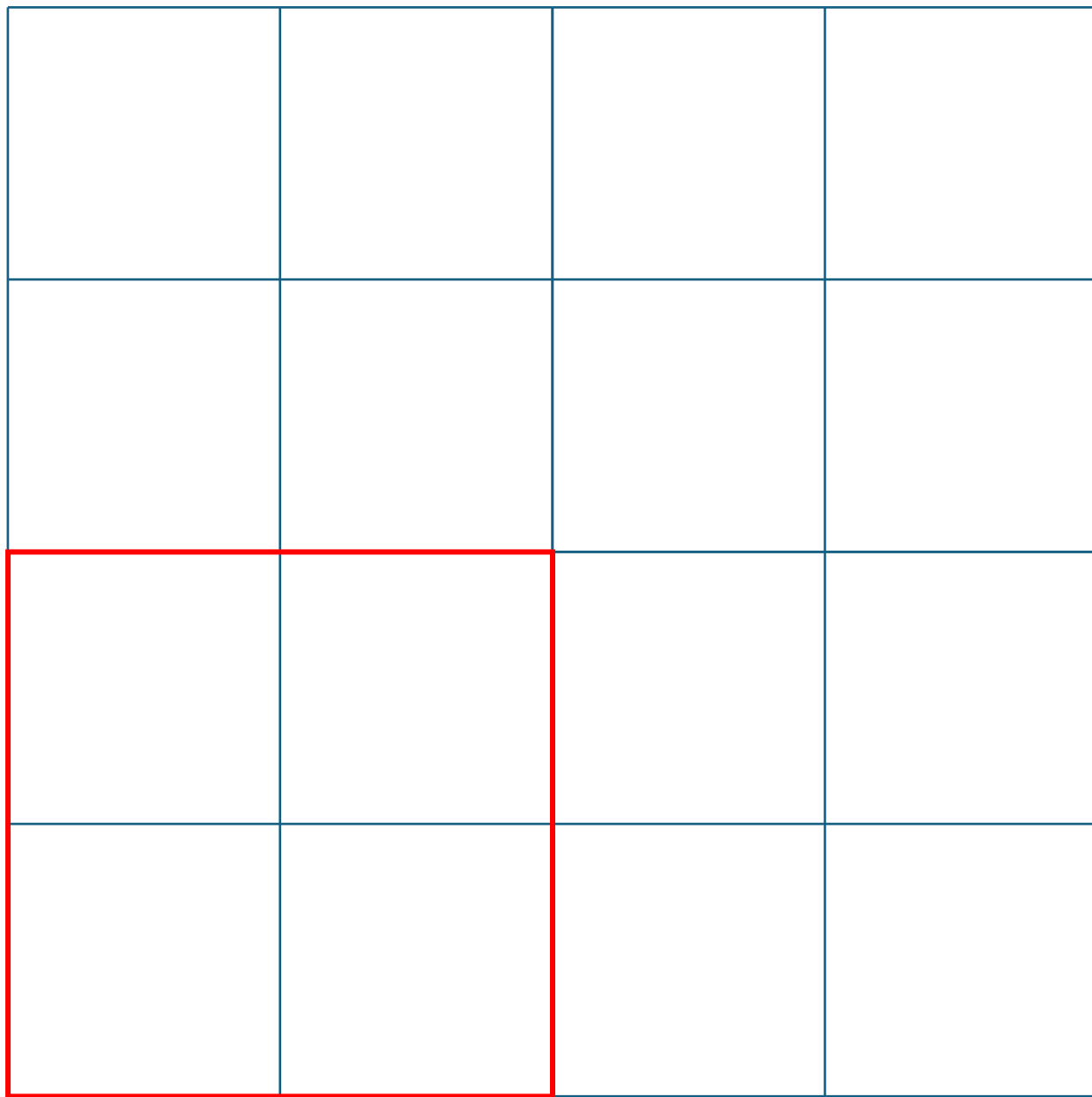
4

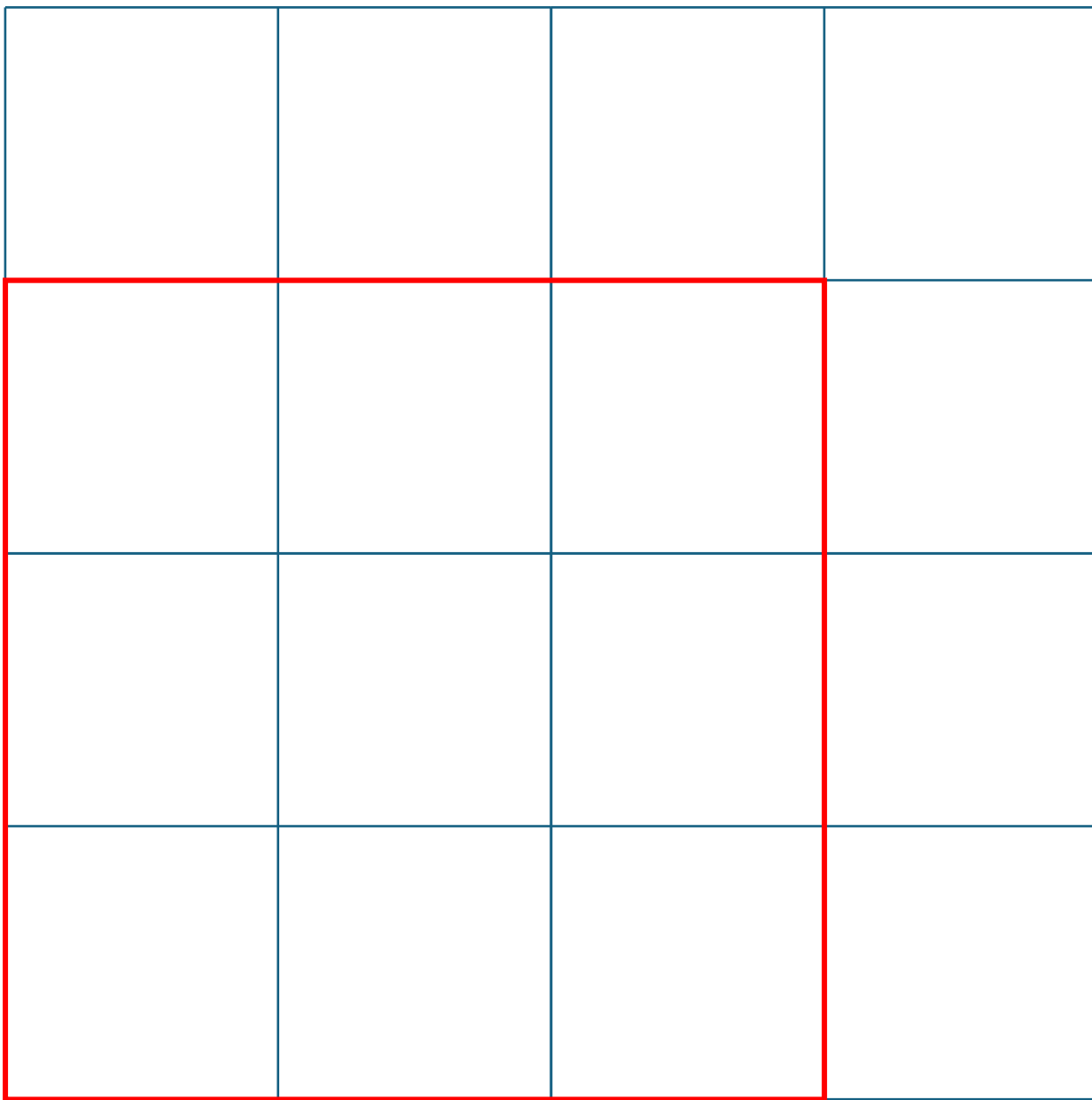


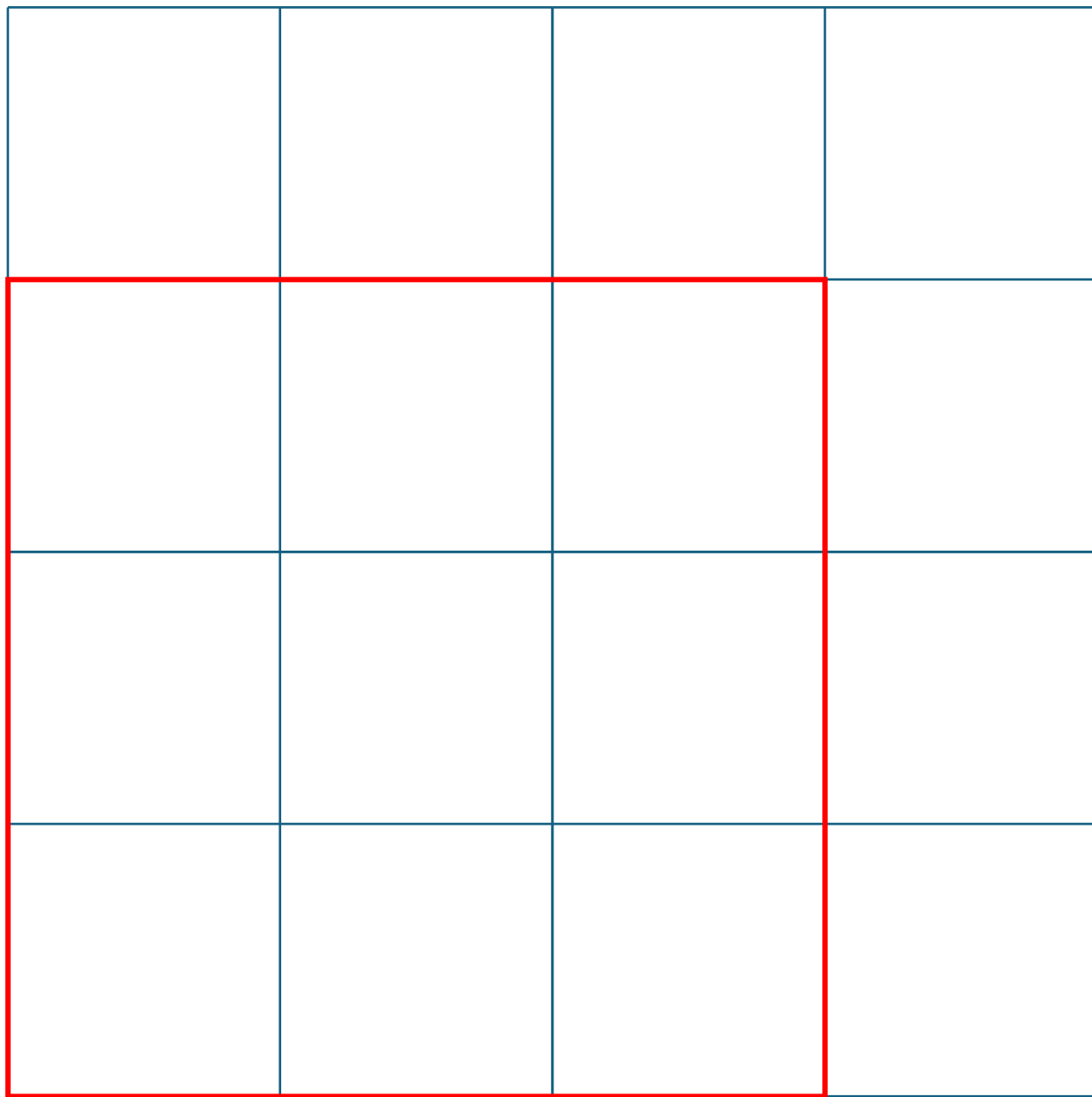


	16		



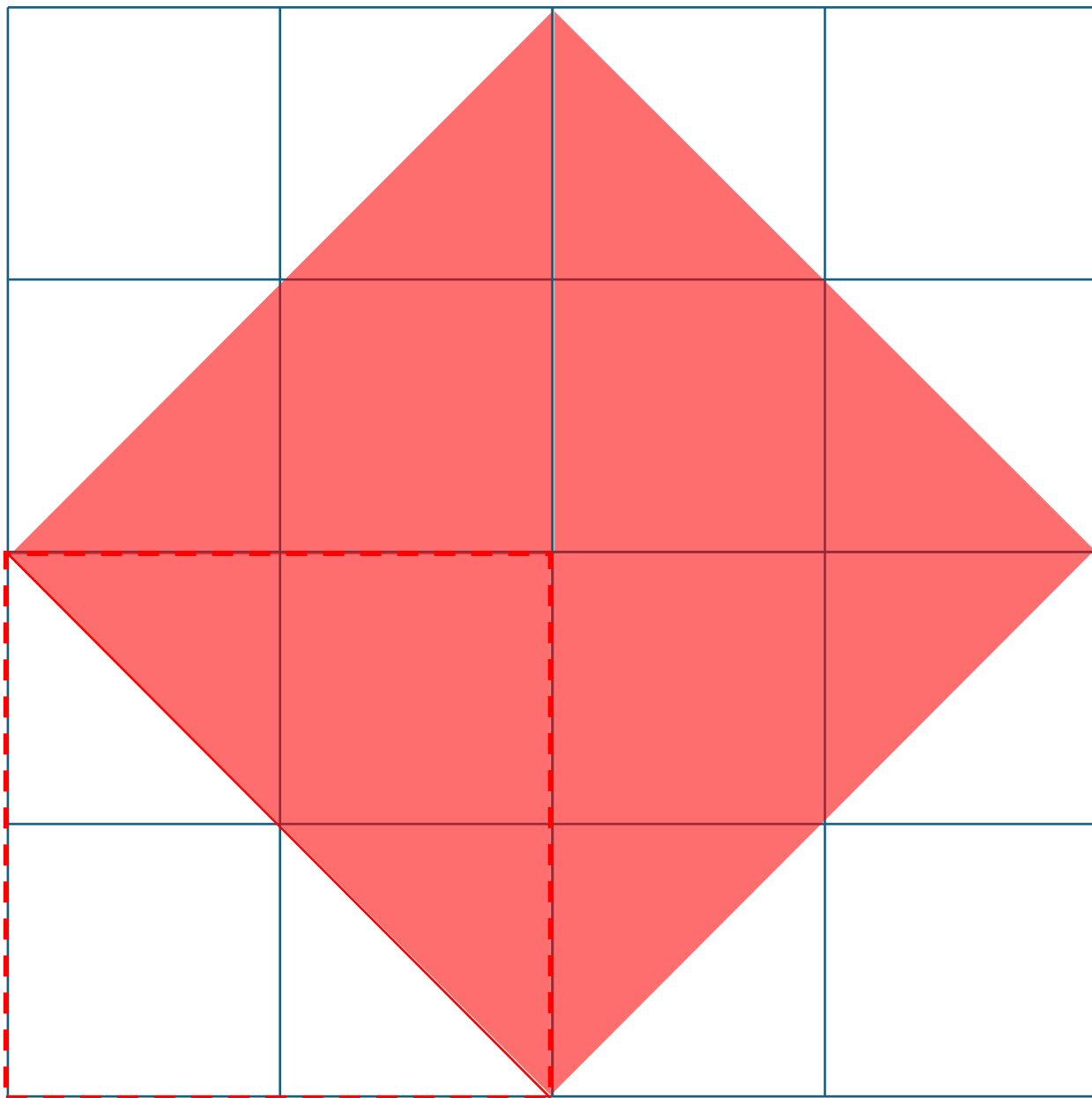


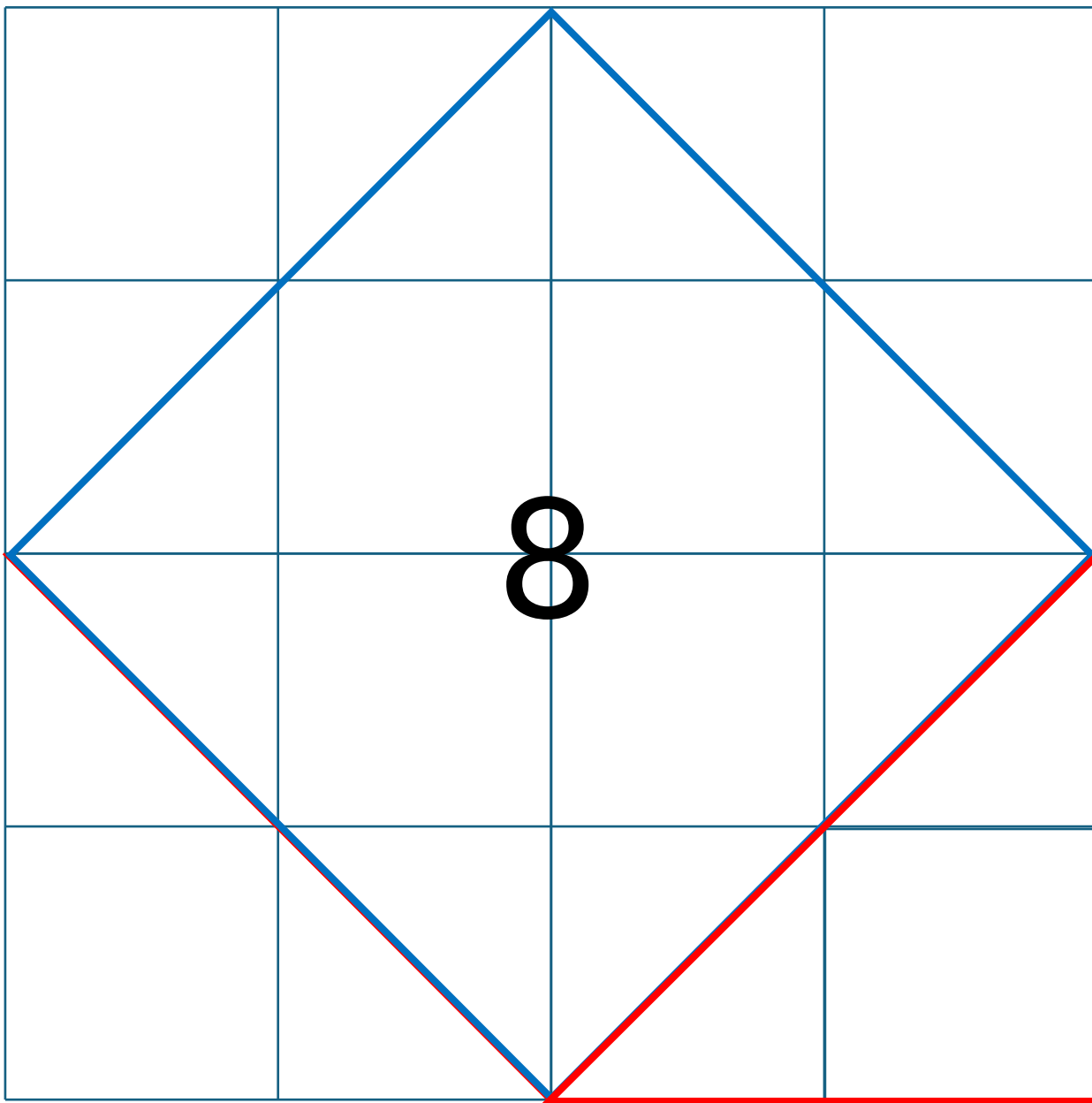


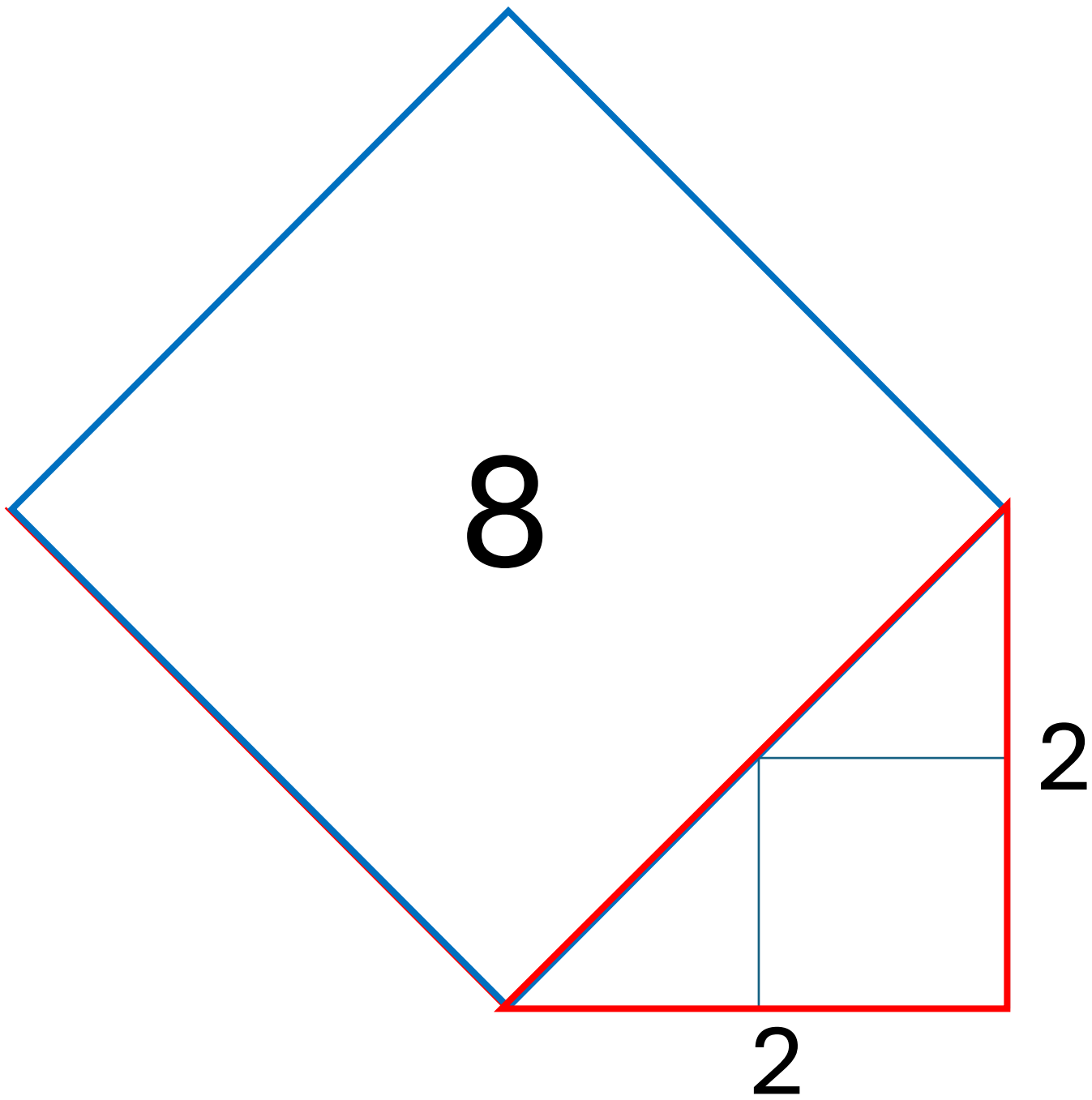


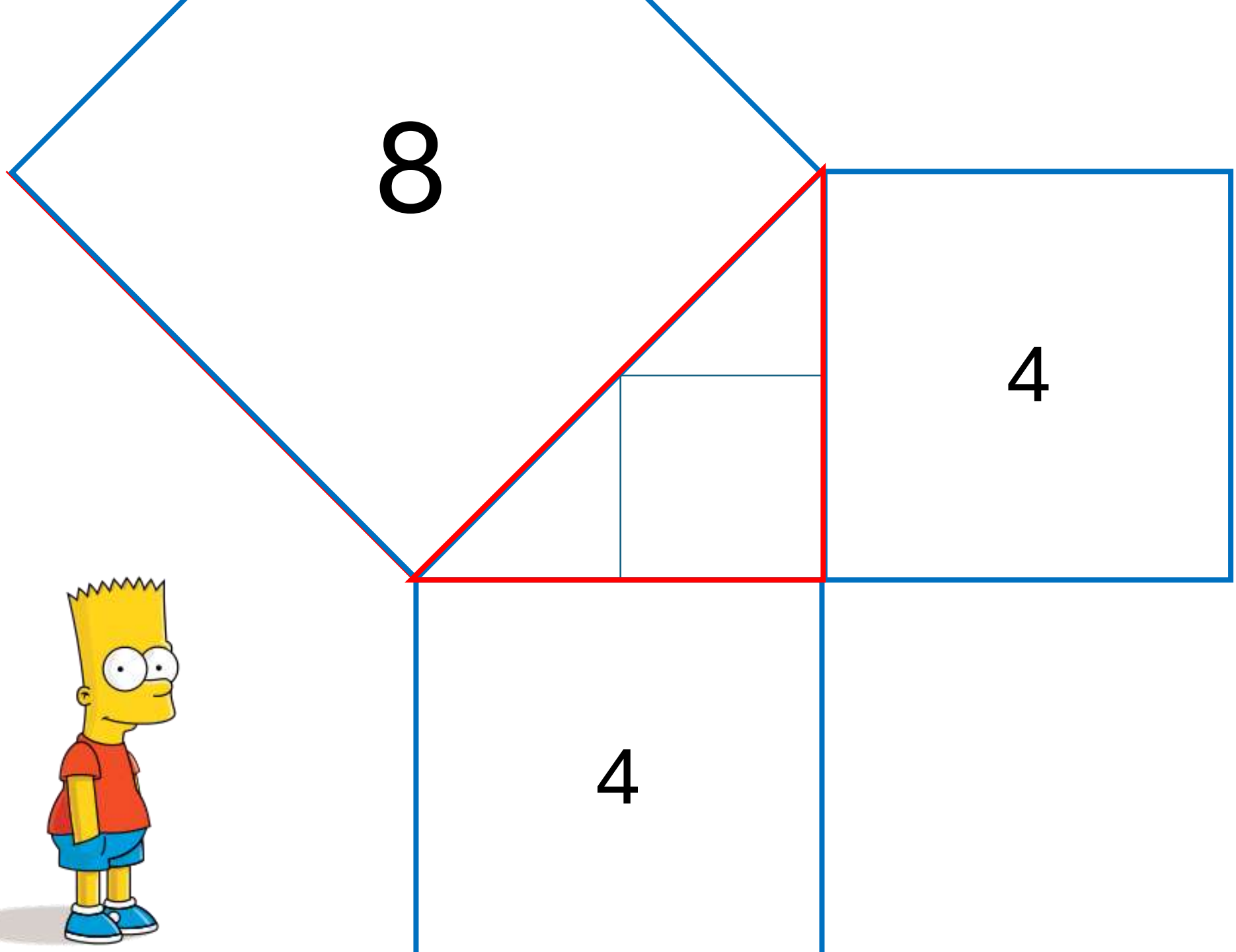


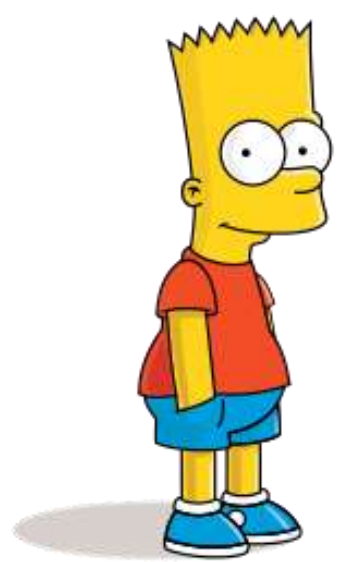
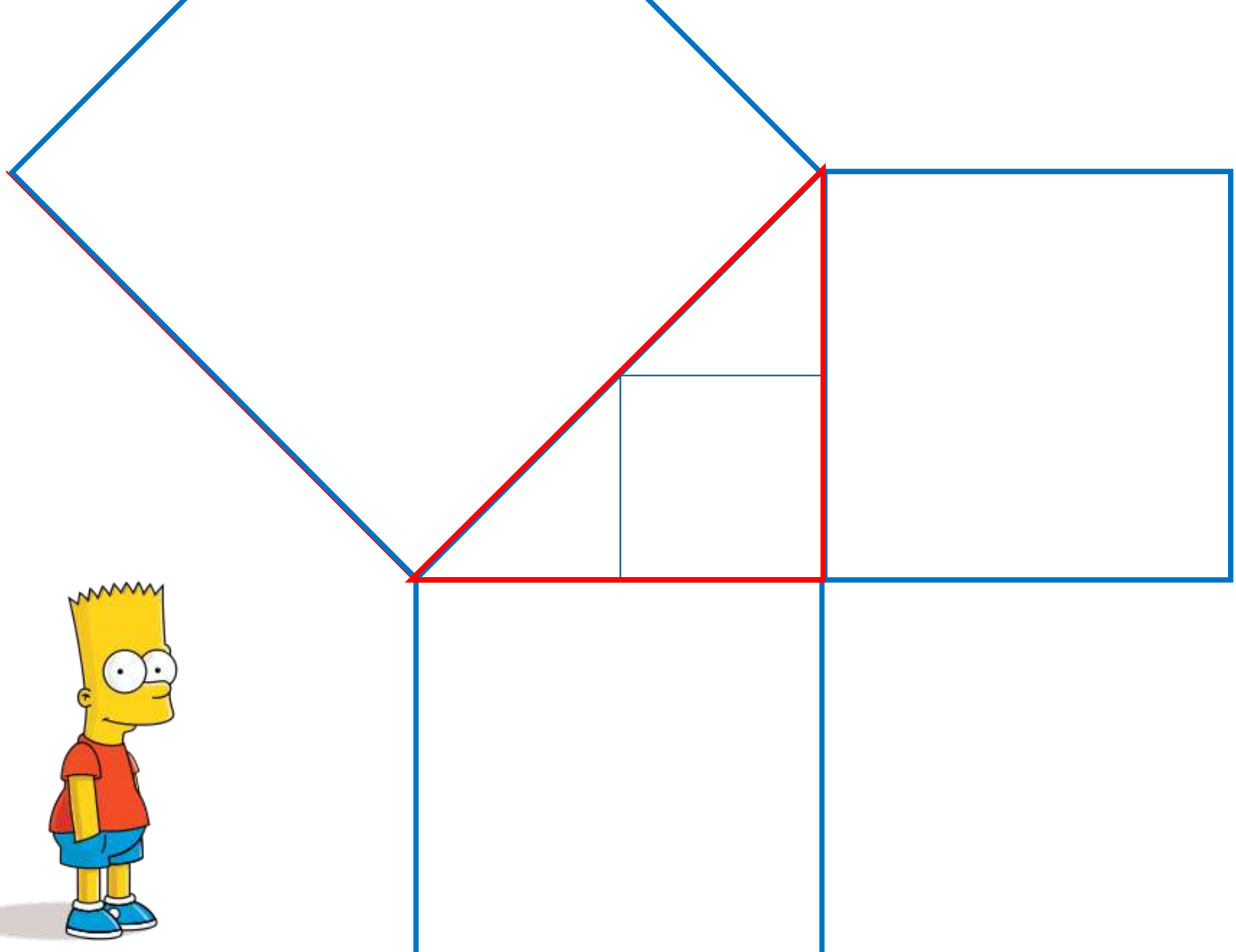


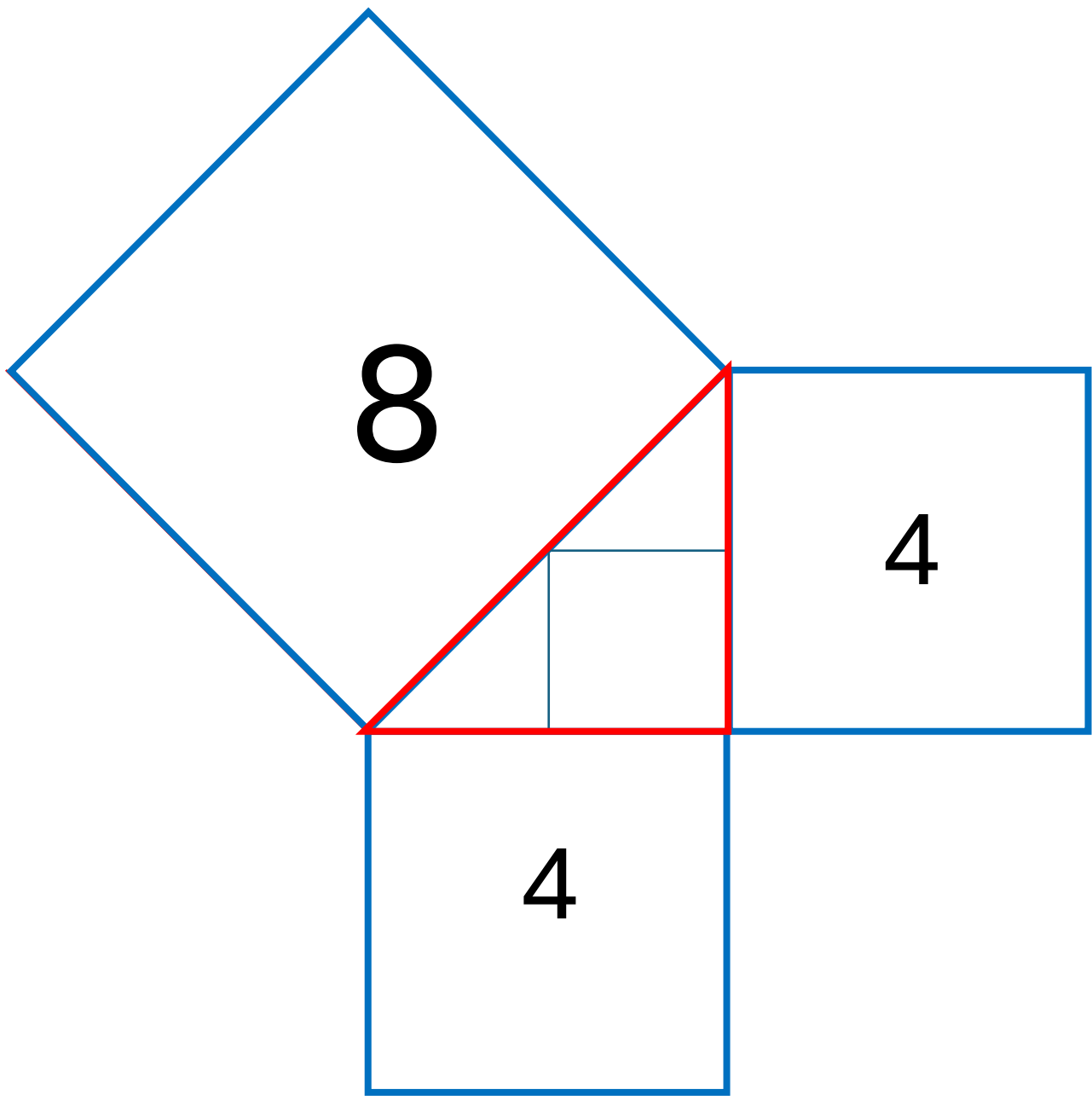












Not teaching Bart

Teaching Meno – headline

Get into Meno's LTM with associations of warm excitement.

And Meno will reconstruct in his own way later

Rigged conversation

Sleight of hand

Driven/held together by Plato's Socrates' WILL TO EXPLAIN

Bart is conjuror's assistant

Theory of cognition entangled in the media and pedagogy.



GOOD
FORTUNE

BEGINNING

END

ILL
FORTUNE



“person-in-a-hole”



Rate the following in terms of X, Y, and V on a scale of 1-3



Plato/Socrates

X Chemistry – nutrient – affordance



Feynman diagrams

Y I could do that (feeling of ...)

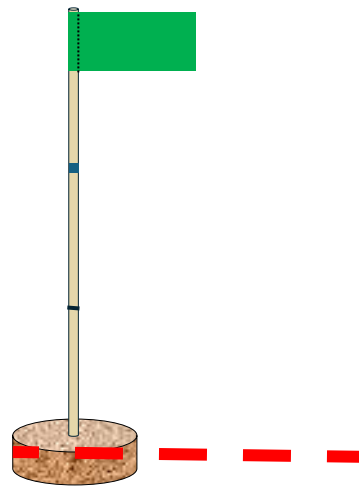
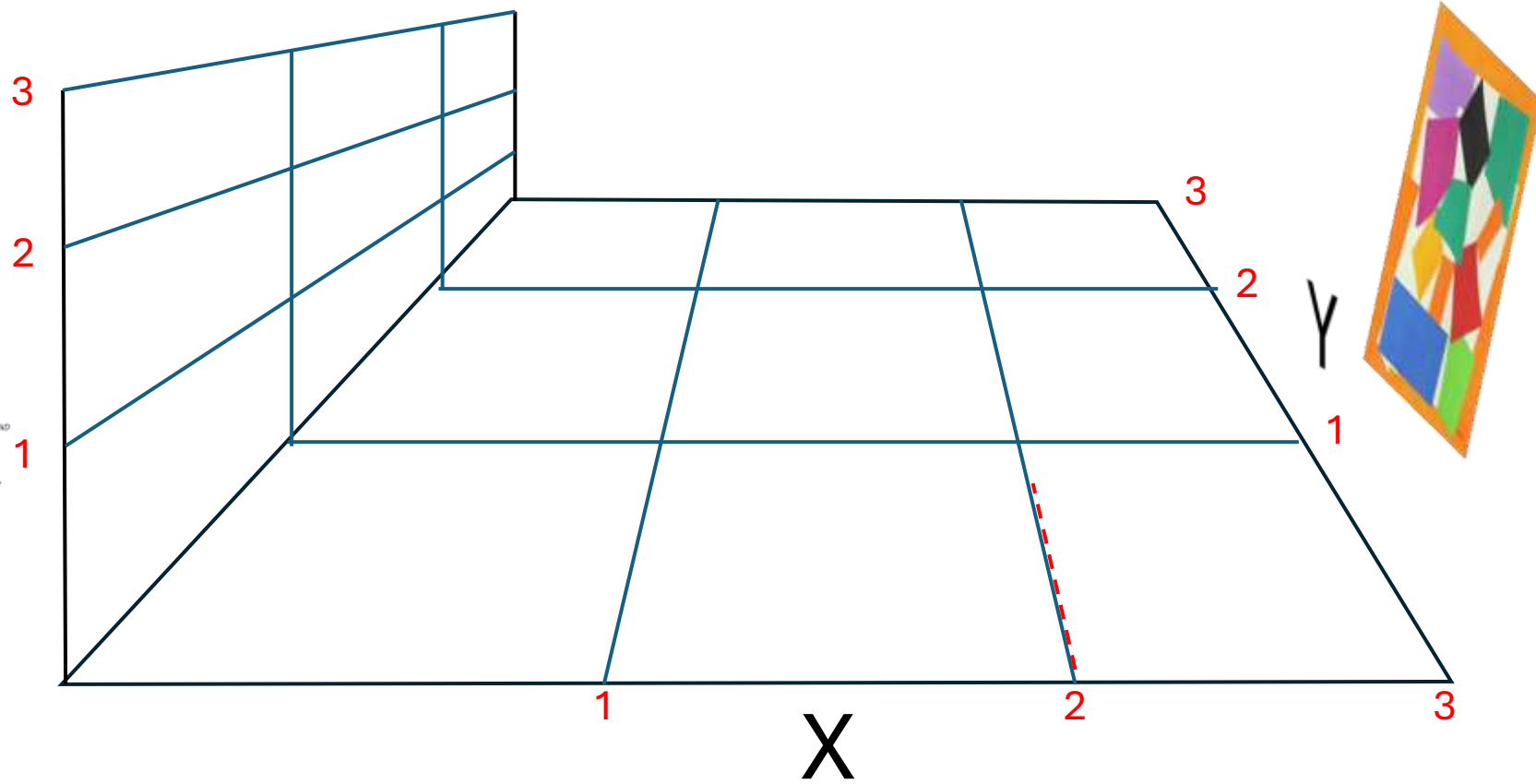
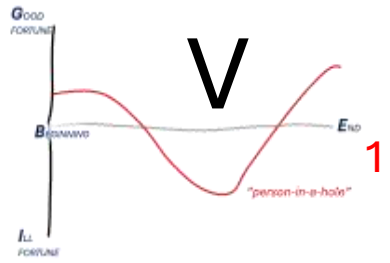


Social Identity Theory

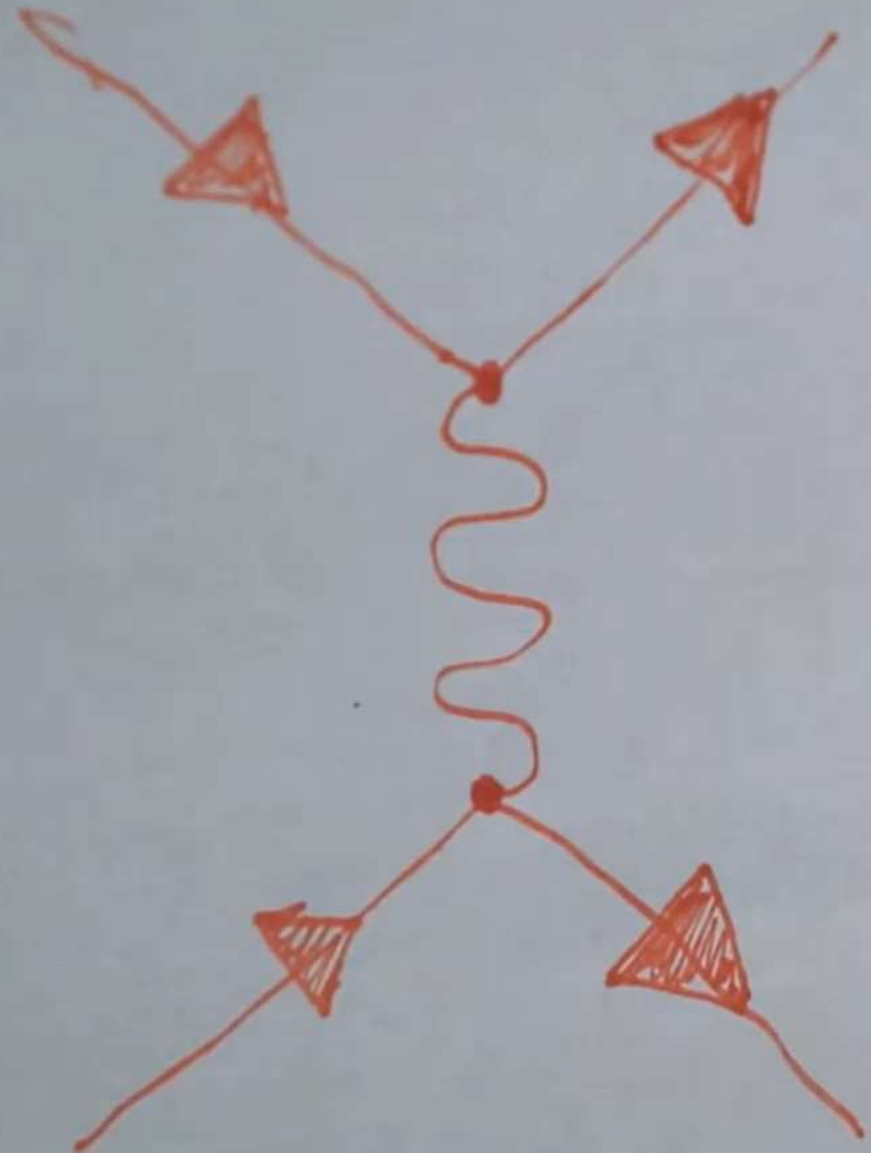
V Story devices



Memory models



Feynman diagrams



Feynman diagrams
Every so often, a scientist is born who is so brilliant and so charming that they become

Rate the following in terms of X, Y, and V on a scale of 1-3



Plato/Socrates



Feynman diagrams



Social Identity Theory

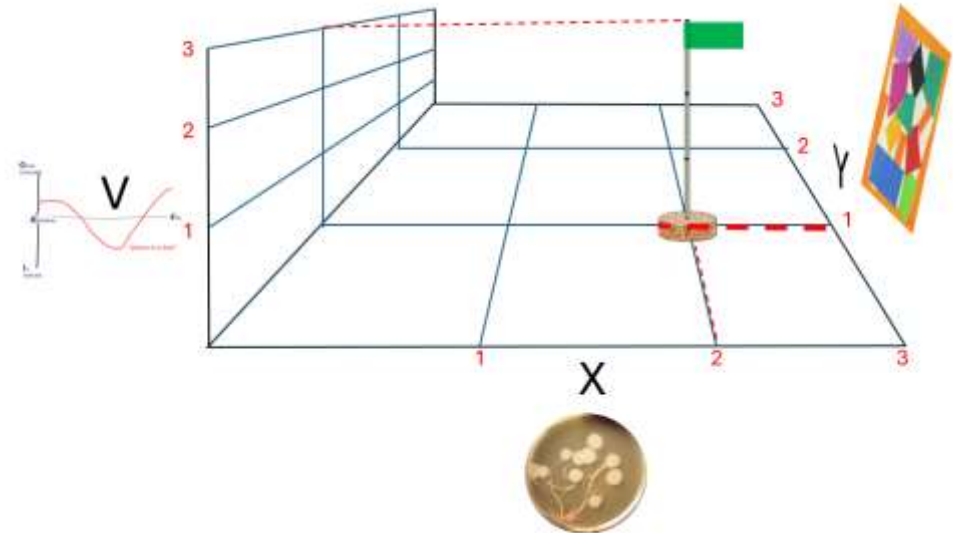


Skinner box

X Chemistry – nutrient – affordance

Y I could do that (feeling of ...)

V Story devices





Social Identity Theory



Play

00:00



Rate the following in terms of X, Y, and V on a scale of 1-3



Plato/Socrates



Feynman diagrams



Social Identity Theory

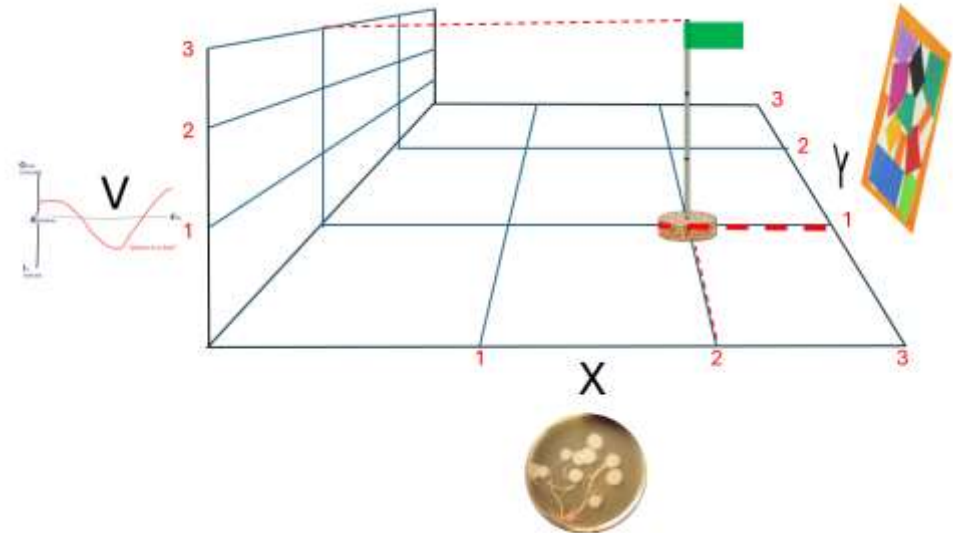


Skinner box

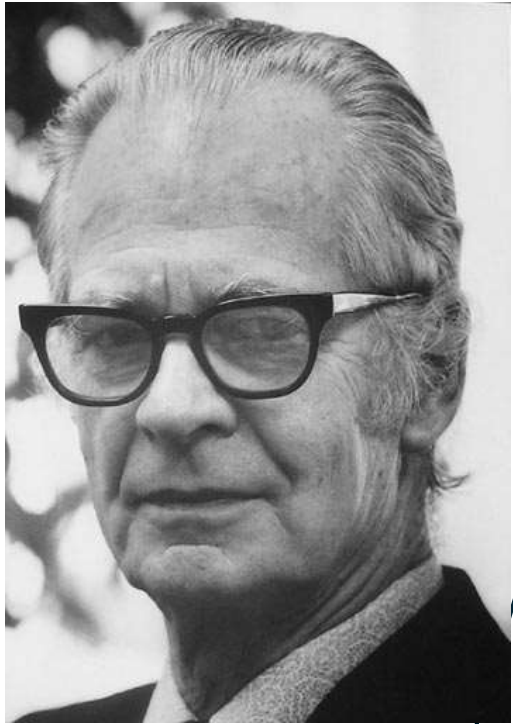
X Chemistry – nutrient – affordance

Y I could do that (feeling of ...)

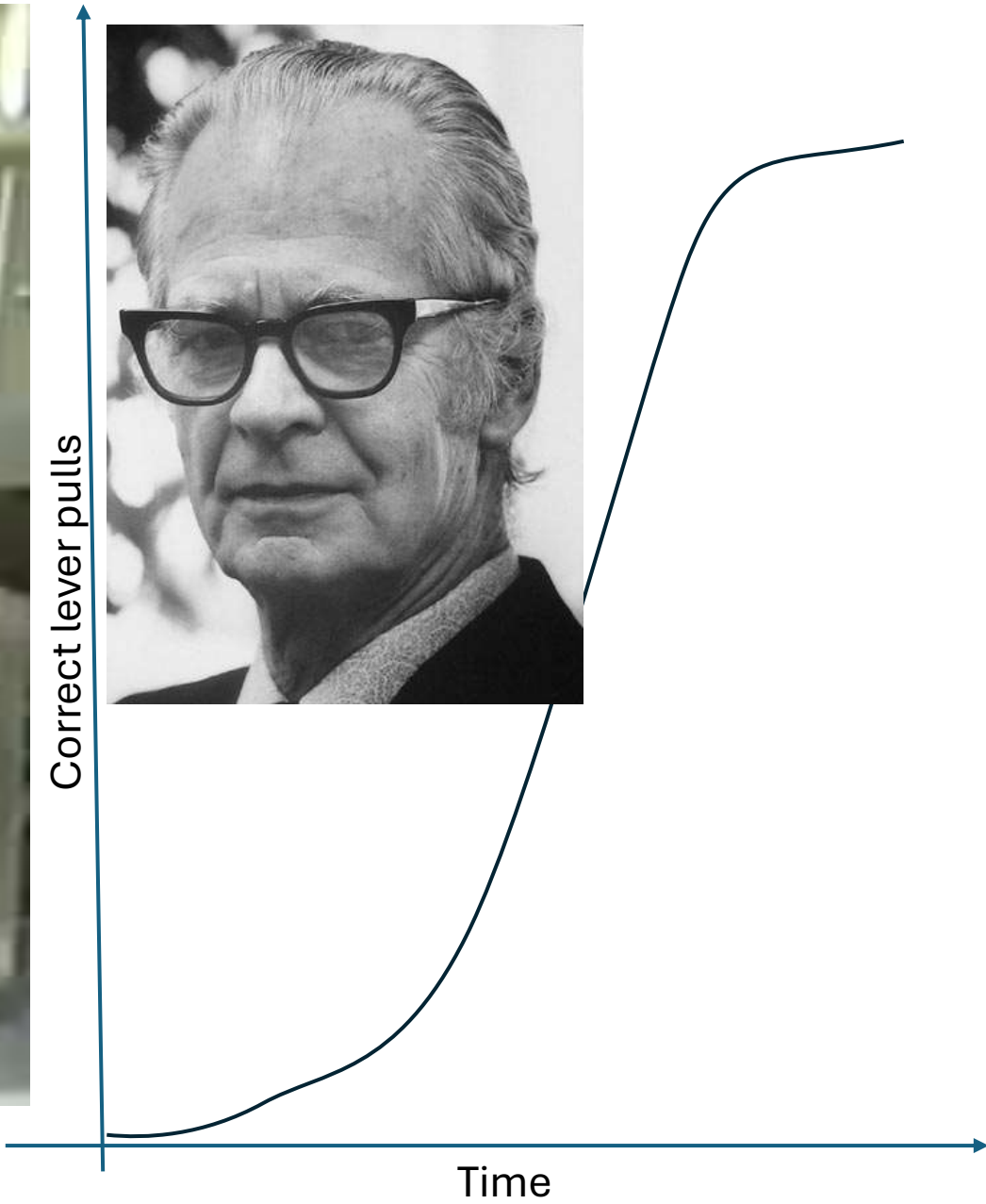
V Story devices



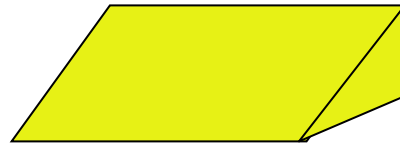
“Skinner box”



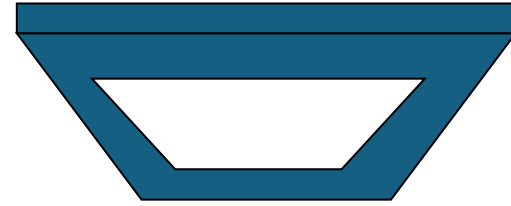
Correct lever pulls



“Skinner box”

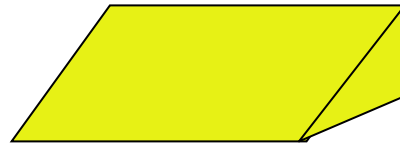


“Skinner box”



“Skinner box”

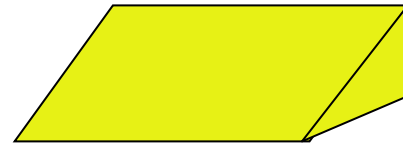
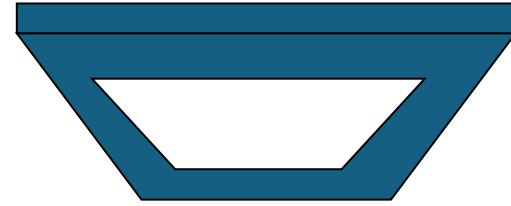
CLICK!



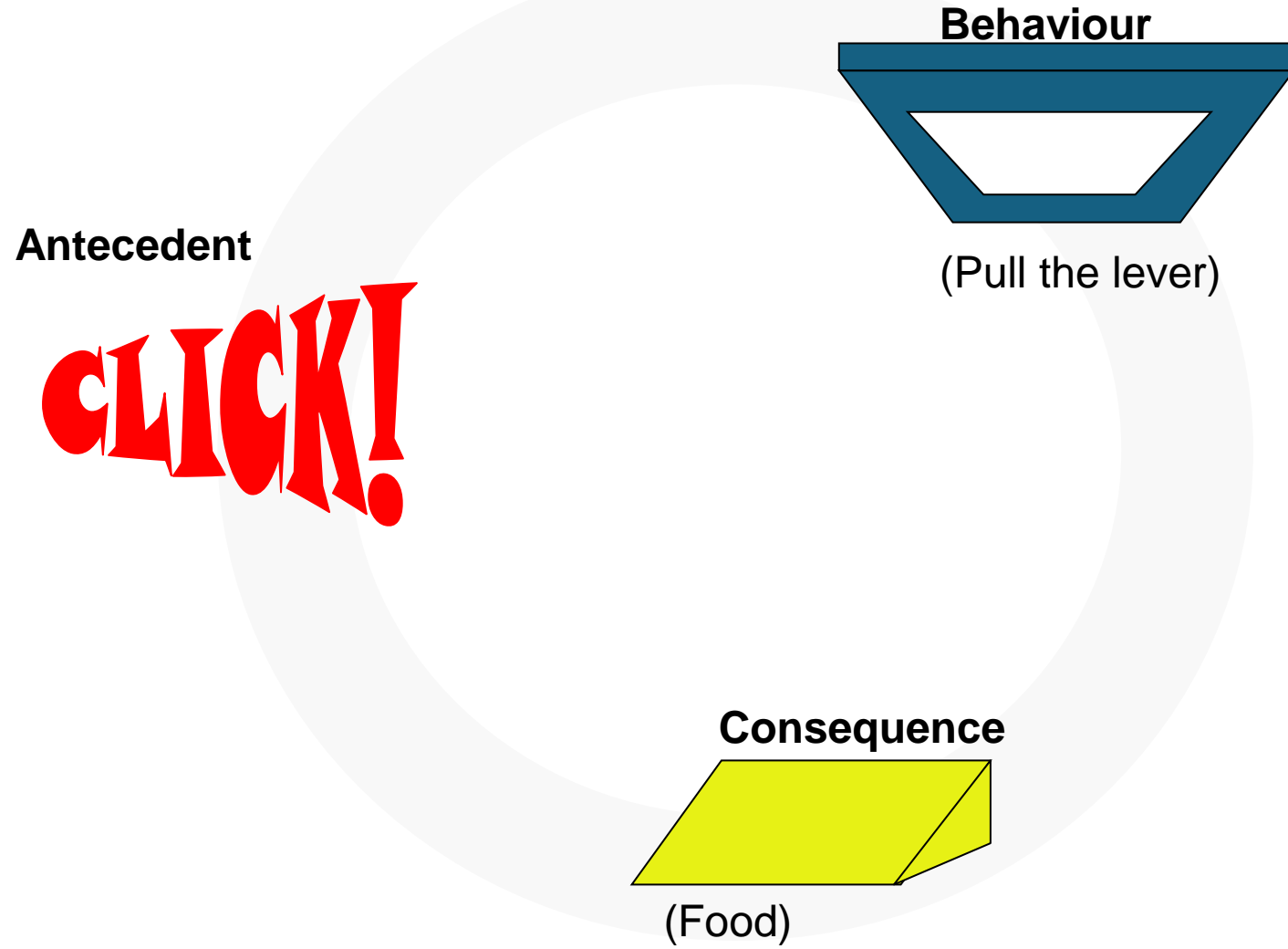
“Skinner box”

CLICK!

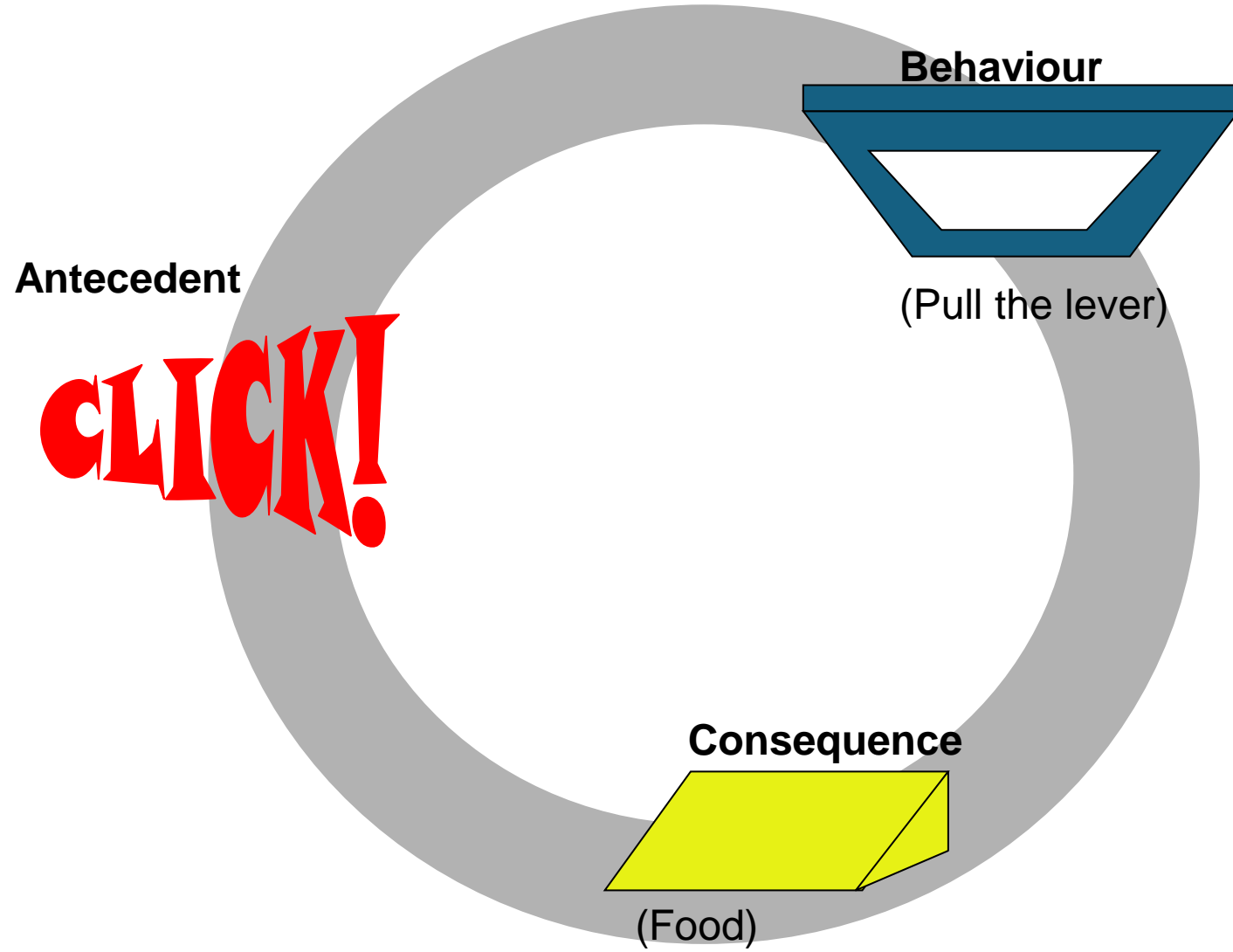
“Skinner box”



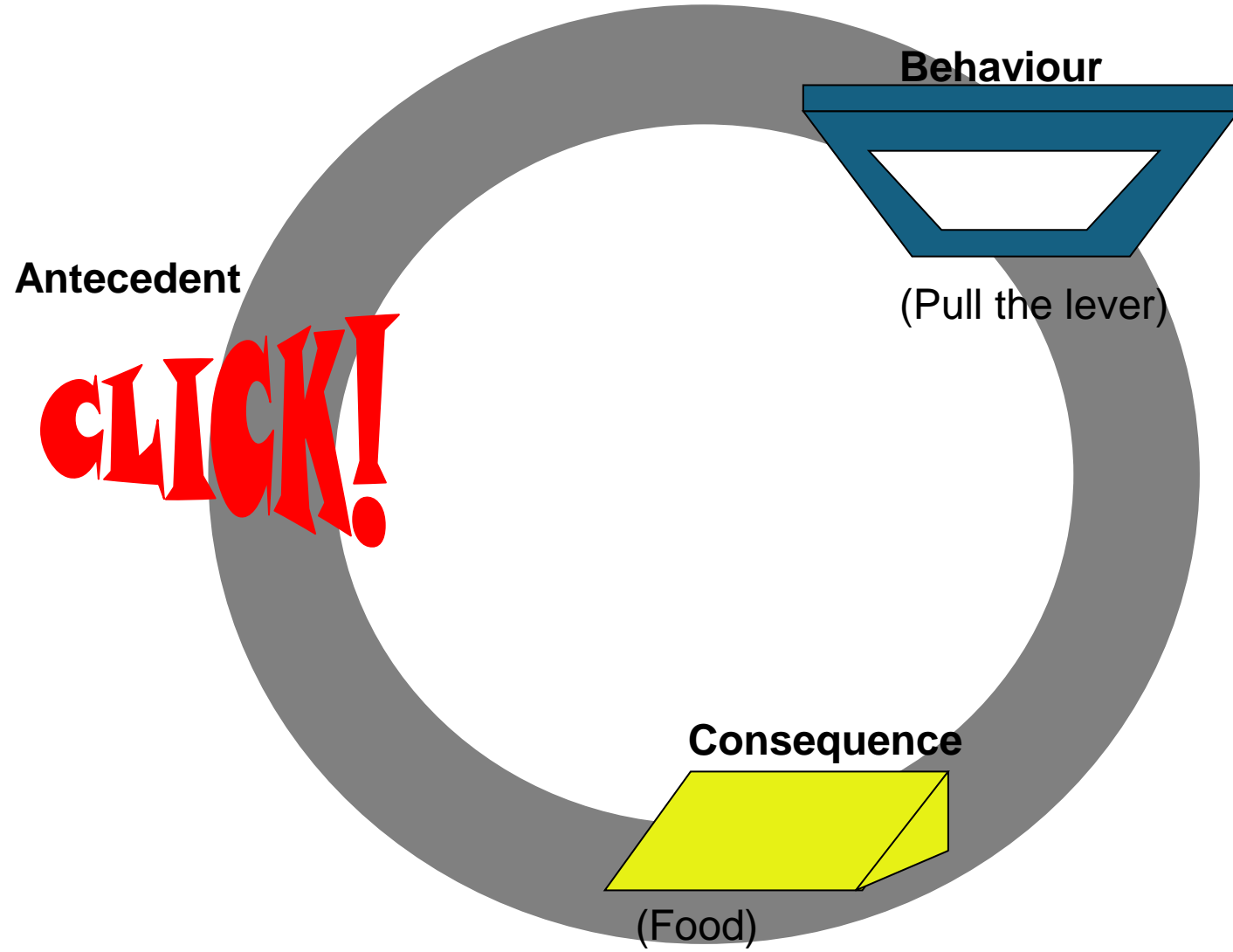
“Skinner box”



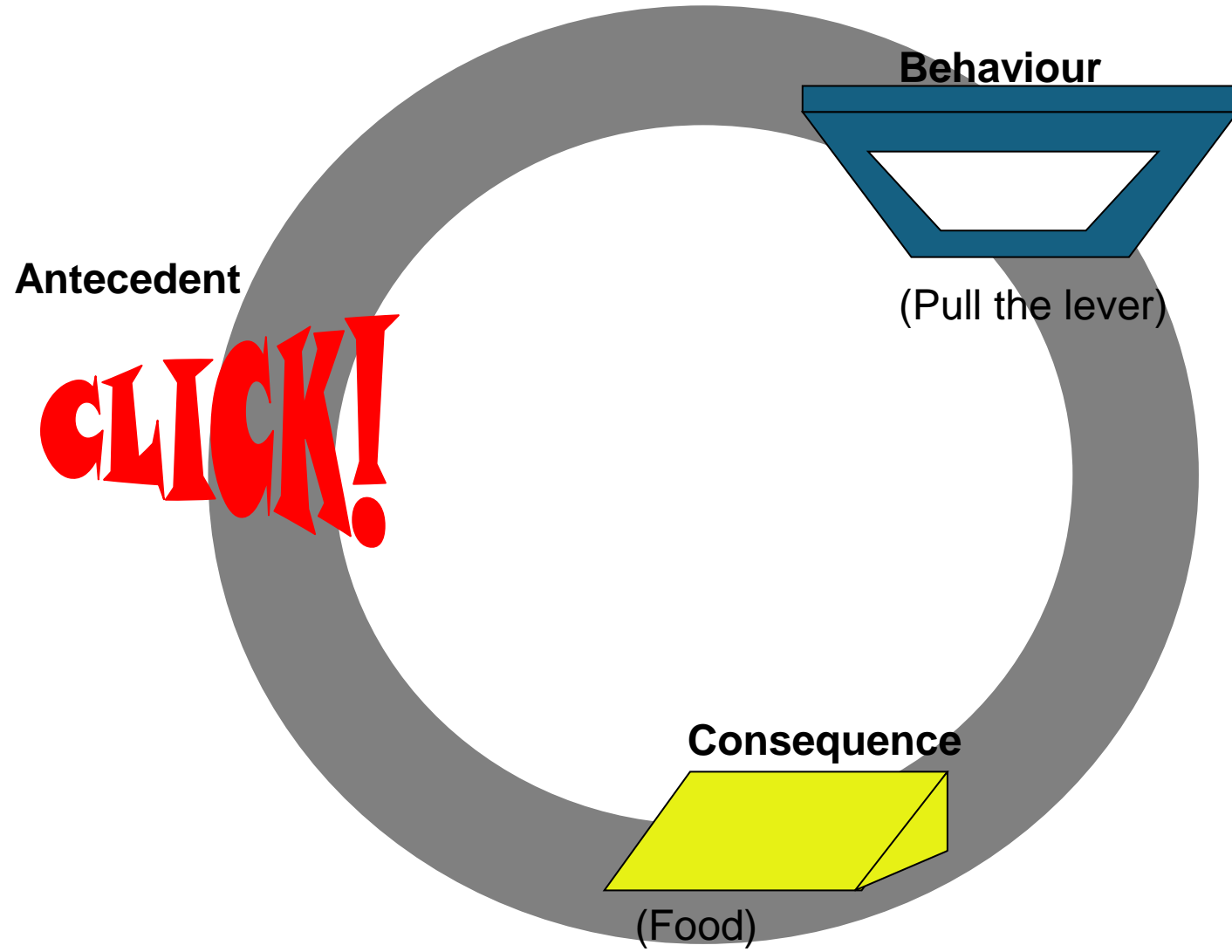
“Skinner box”



“Skinner box”



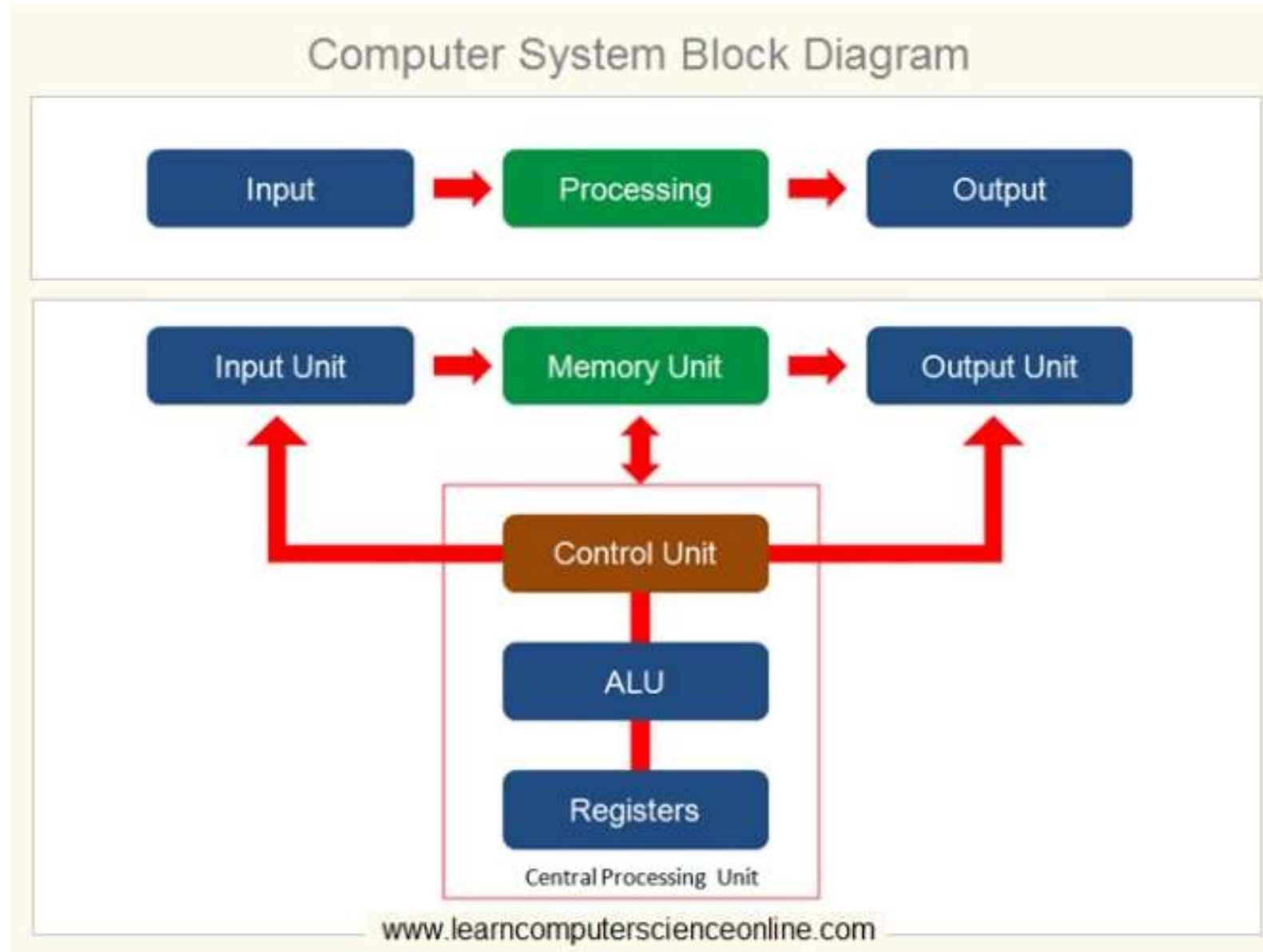
“Skinner box”



“Skinner box”



Memory models



Memory models

Memory & Attention

“Multi-store model”

Duration:

3 secs auditory

0.25 sec visual

Duration:

20 secs approx

Capacity:

7 +/- 2 chunks

Coding:

Visual/auditory

Duration:

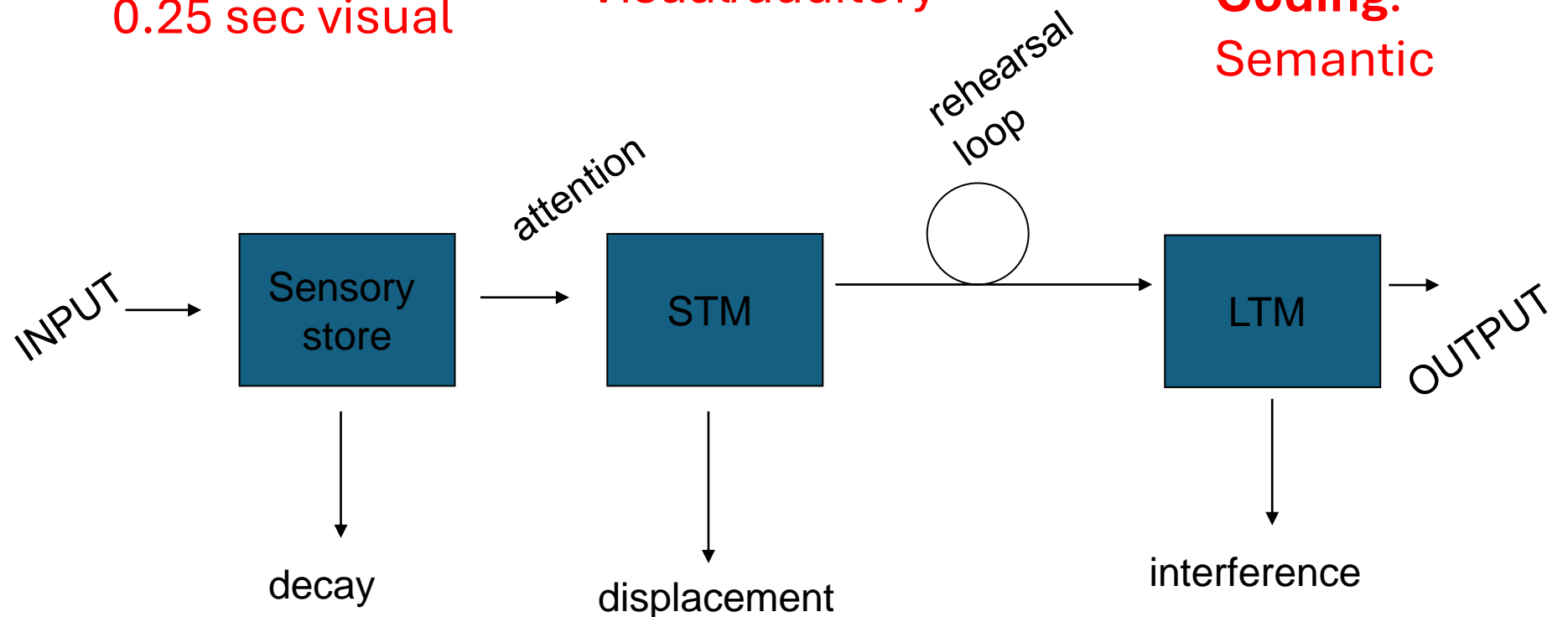
Indefinite

Capacity:

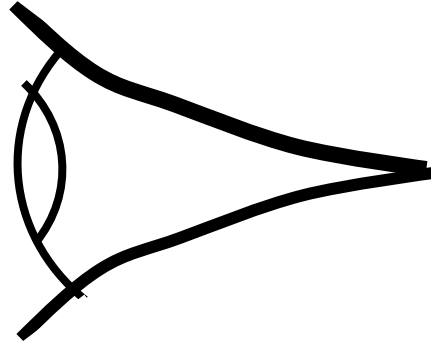
Unknown

Coding:

Semantic

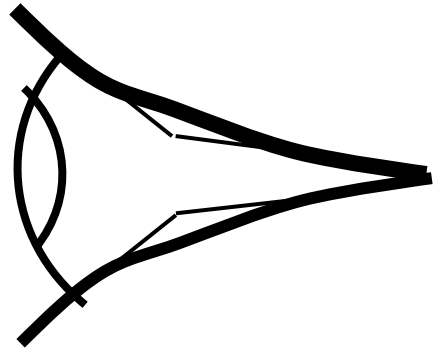


Memory models

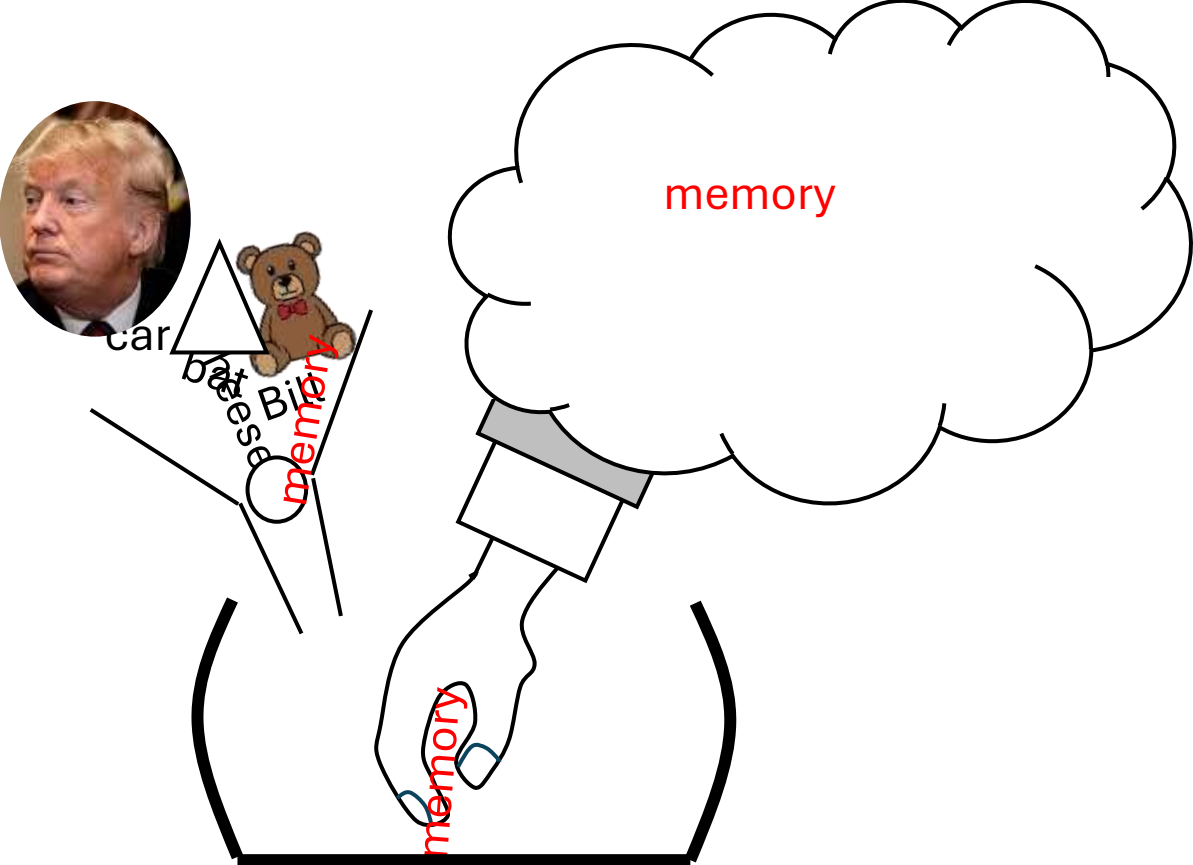


Memory

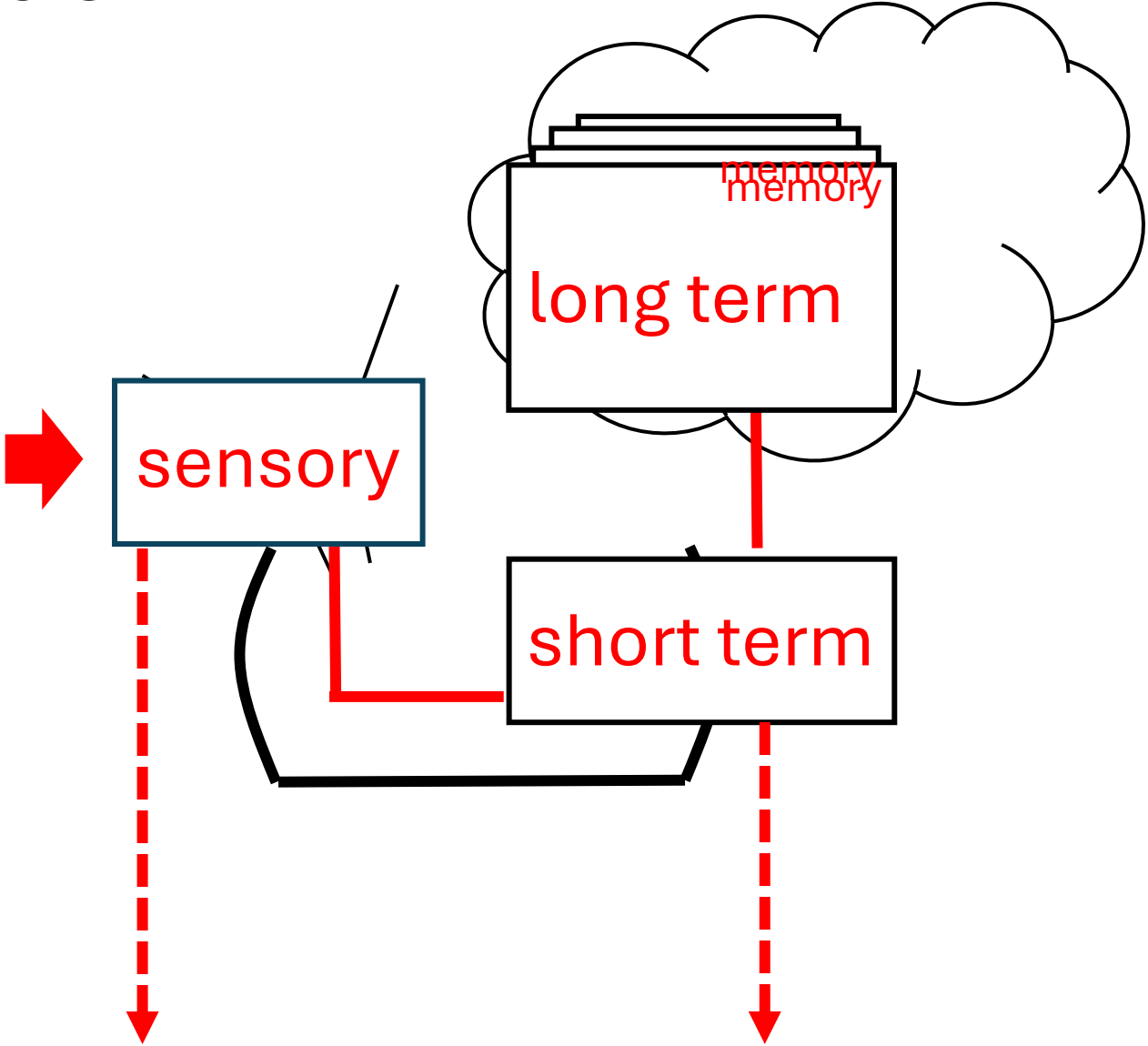
Memory models



Memory models



Memory models



Memory models

Automatic

Duration:
3 secs auditory
0.25 sec visual

Duration:
20 secs aprox

Capacity:
7 +/- 2 chunks

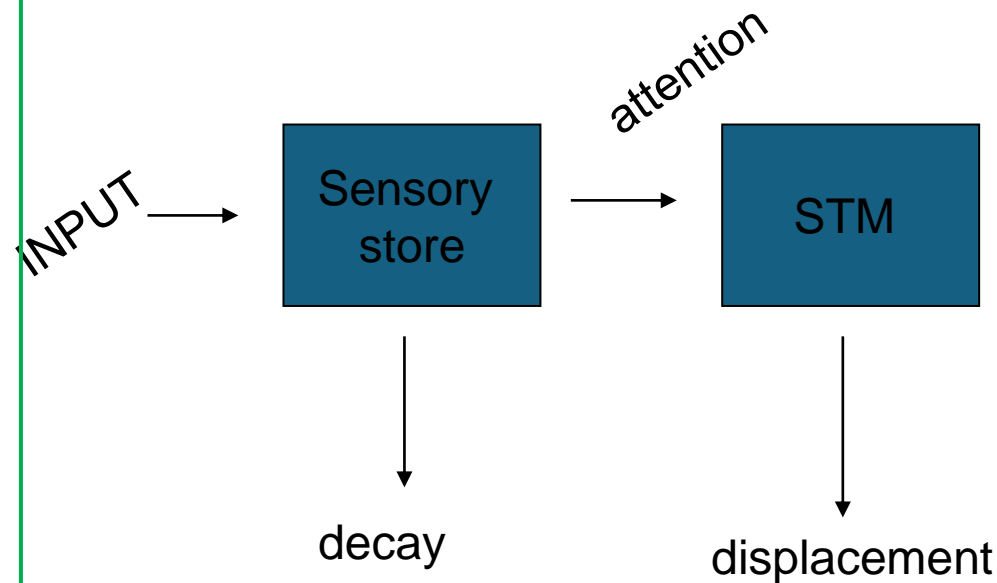
Coding:
Visual/auditory

Reflective

Duration:
Indefinite

Capacity:
Unknown

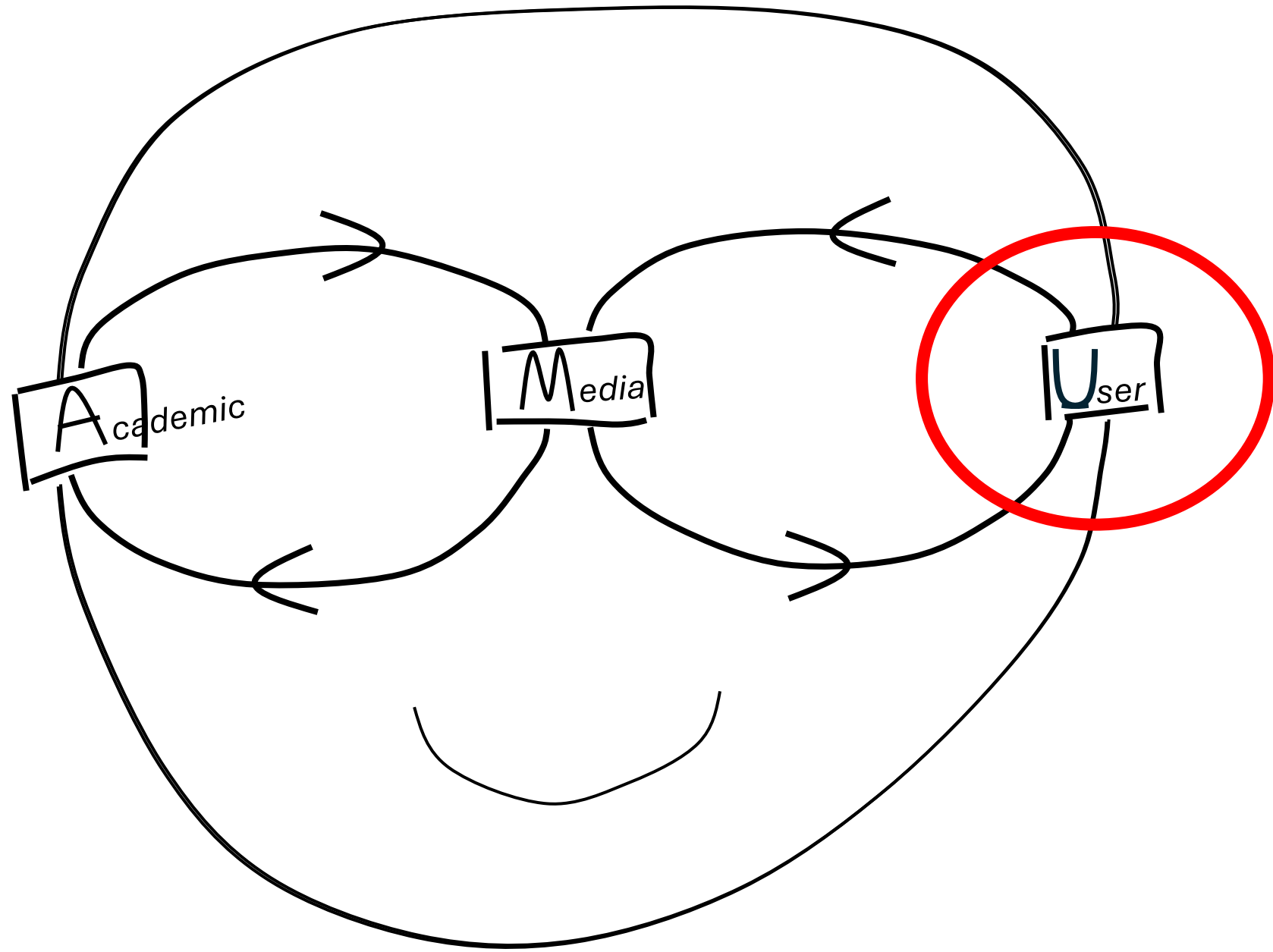
Coding:
Semantic



Doesn't like to think too much

Loves a good story

User profile





Online "User story"



End of a day's works

Non-specialist

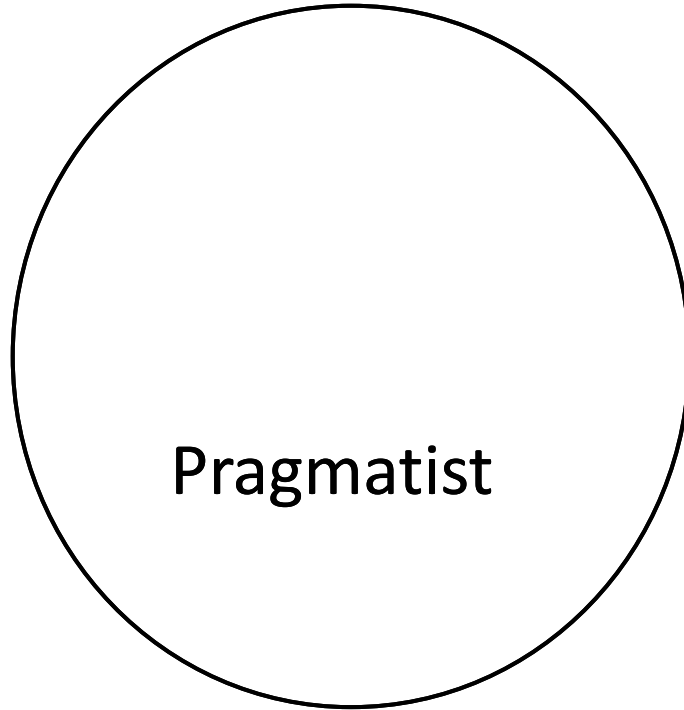
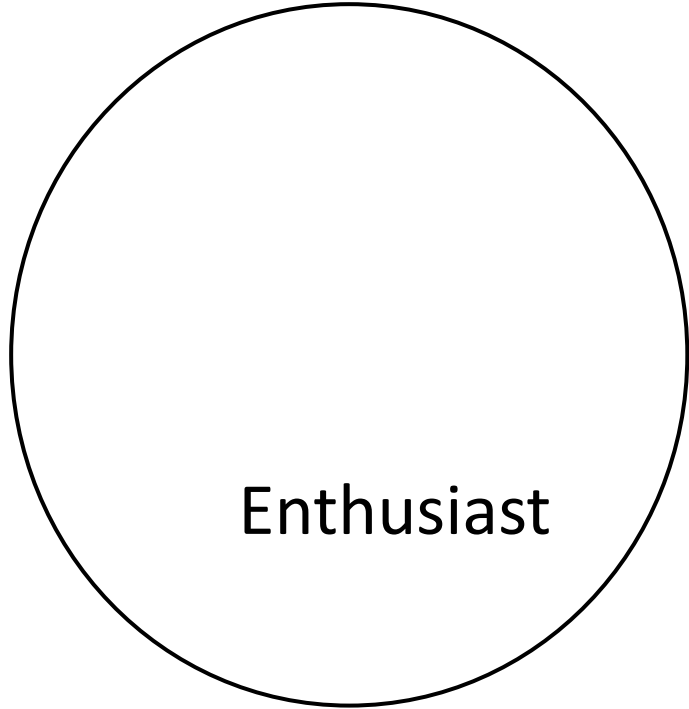
Kids

Interested ...in principle

(Later)...alone



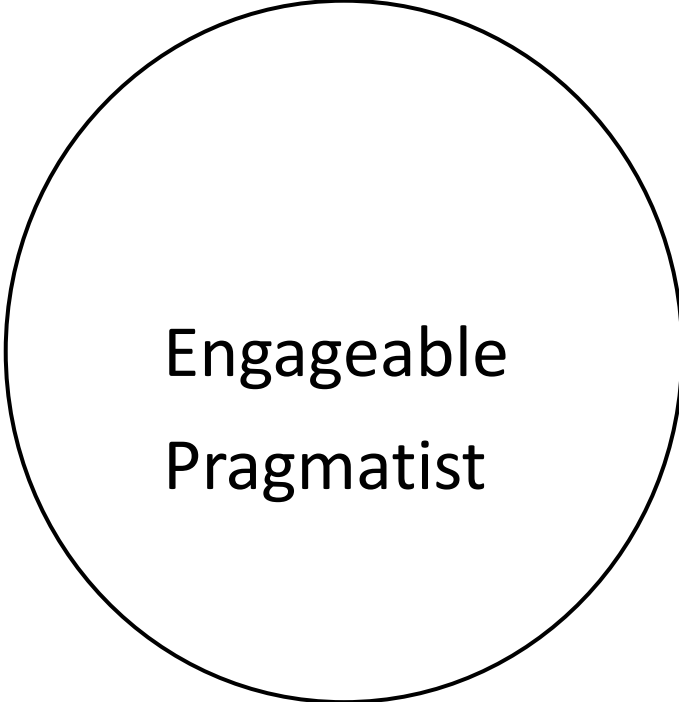
Three types?



Three types?



Enthusiast



Engageable
Pragmatist

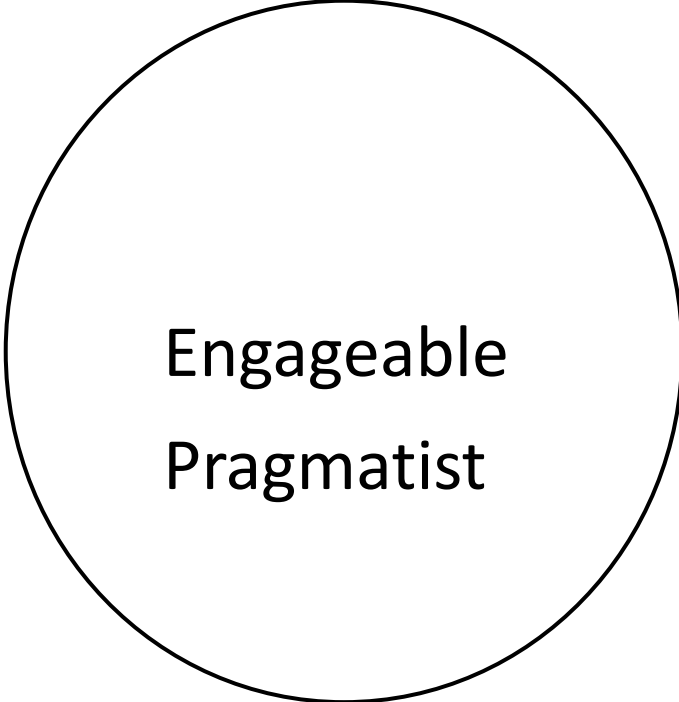


Cynical
Pragmatist

Three types?



Enthusiast

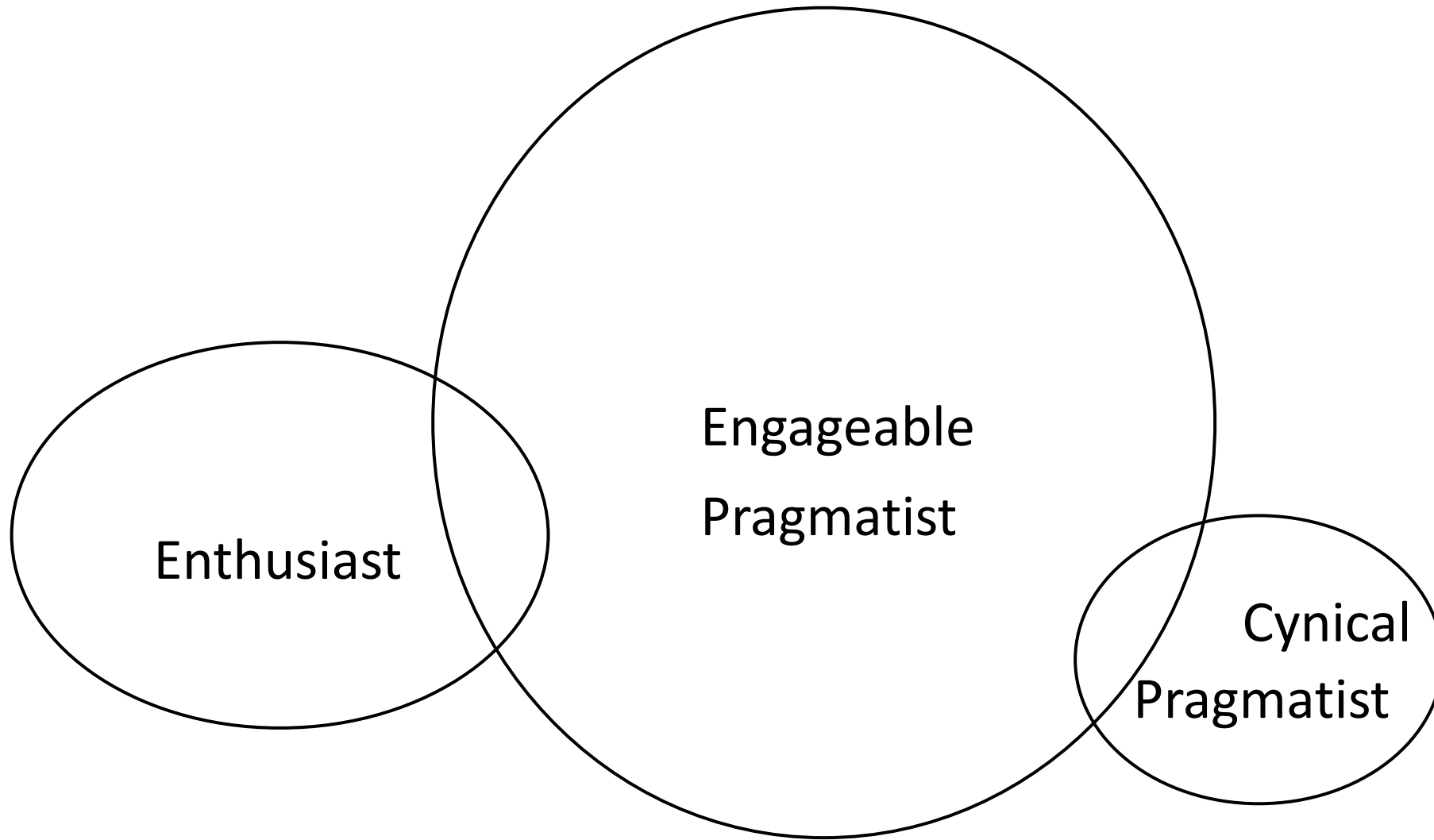


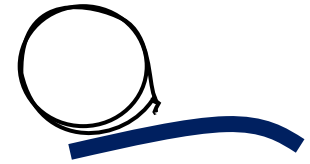
Engageable
Pragmatist



Cynical
Pragmatist

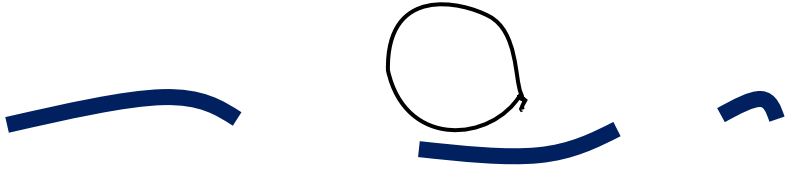
Three types?





Intermittent work schedule

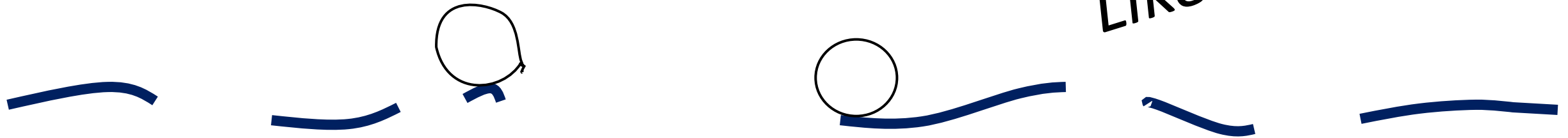




Intermittent work schedule



“Tune-in-the-head”

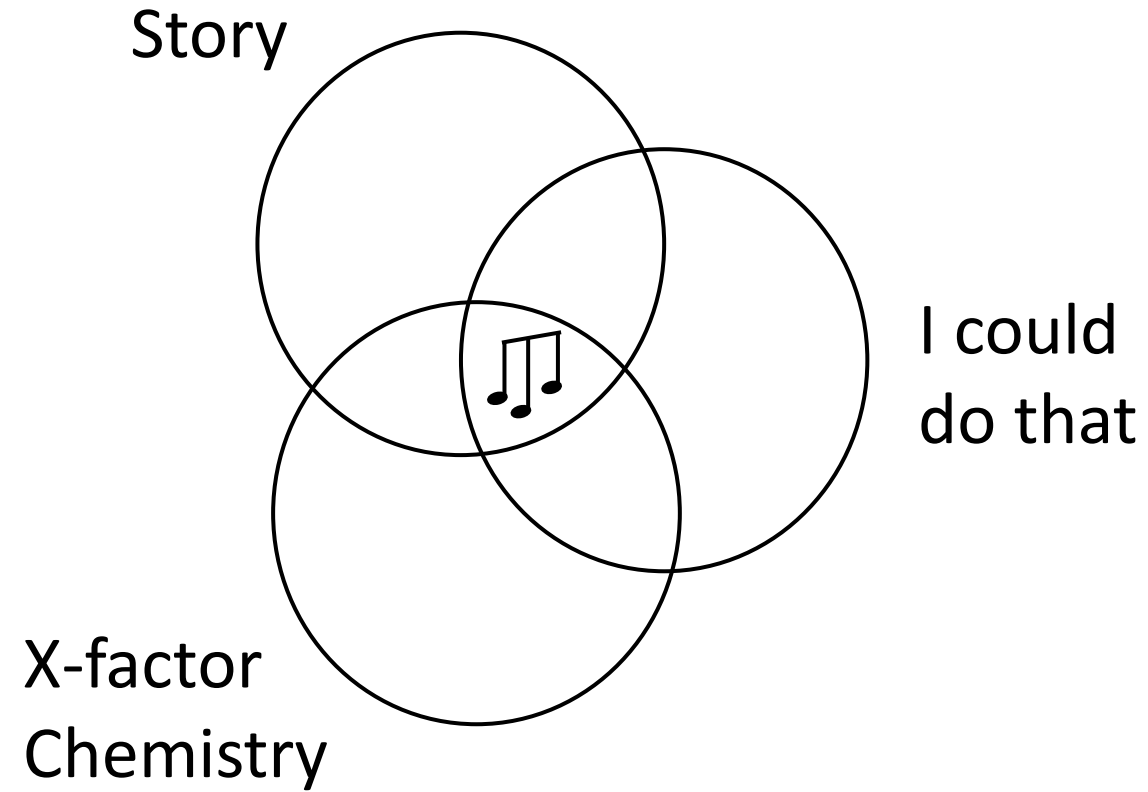


Like a novel

Intermittent work schedule



“Tune-in-the-head”



“Tune-in-the-head”

**I’m going to die
to Boney M!**

“Tune-in-the-head”



growable “Tune-in-the-head”– “ear worm”



a

(C, A)

ni I

ni II

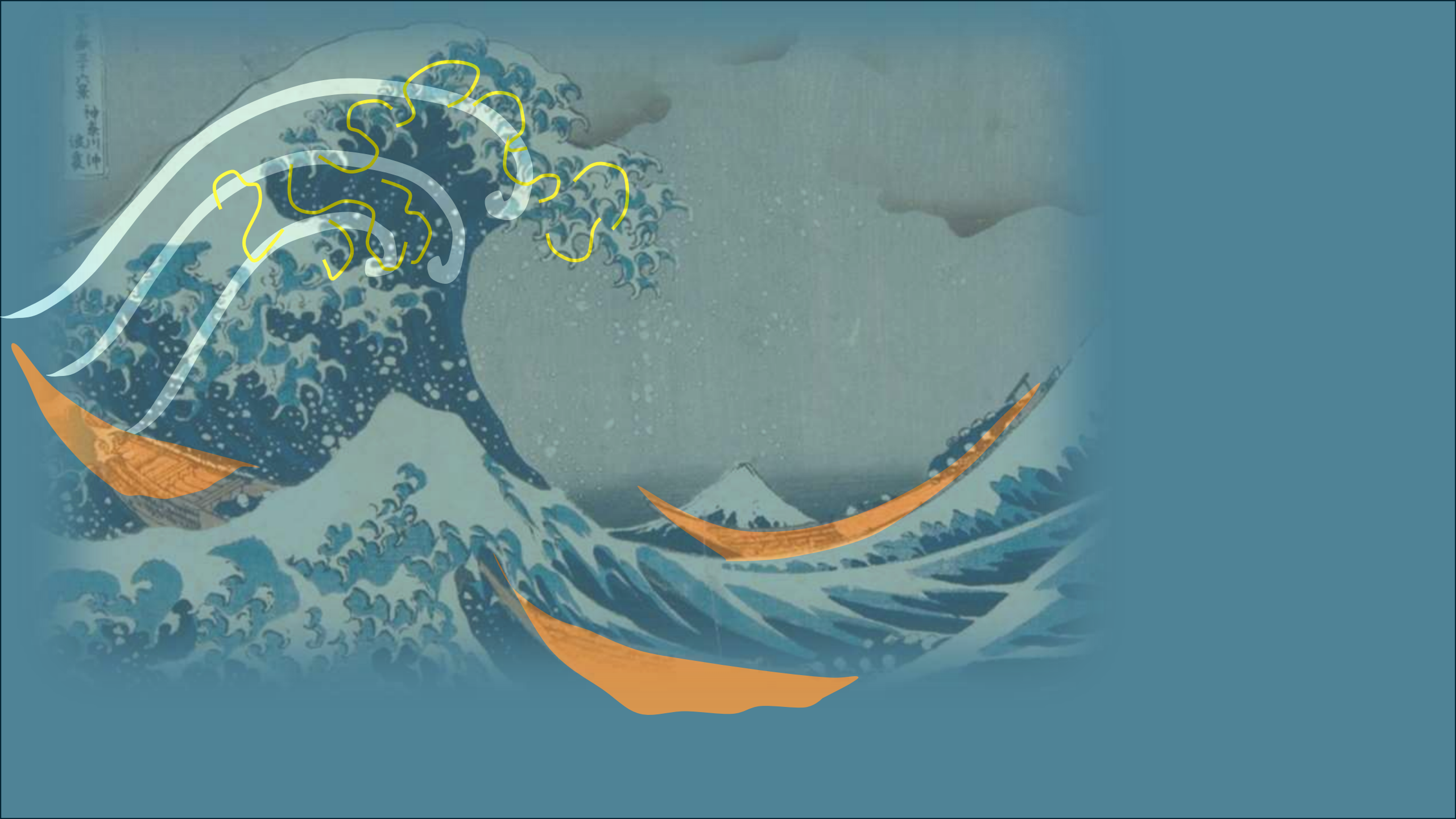
le

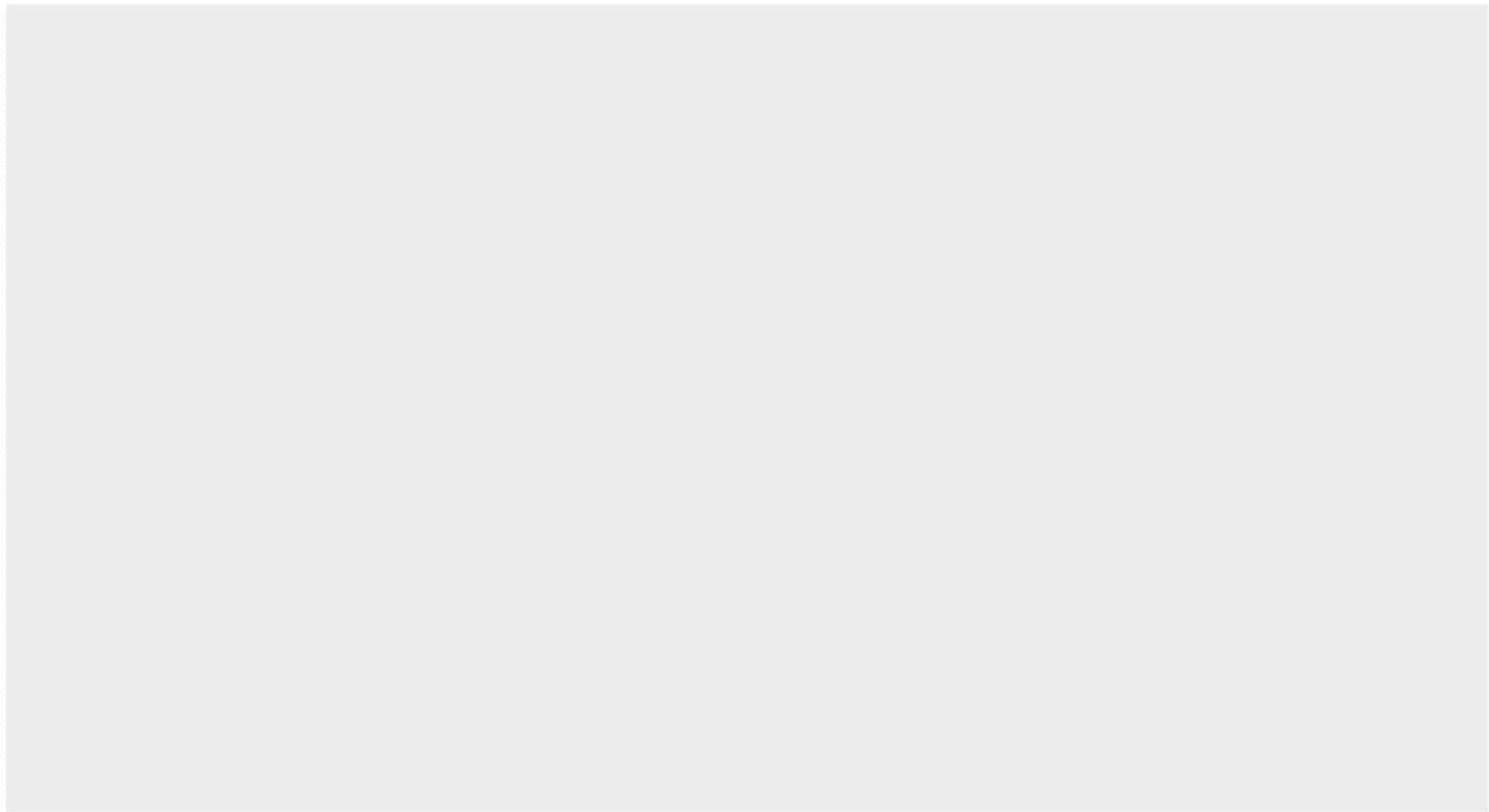
celli

bassi

Adagio $\text{♩} = 50$

This musical score is for a string quartet and piano. It consists of six staves. The top two staves are for Violin I and Violin II. The third staff is for the Piano, which begins with a triplet of eighth notes and a triplet of sixteenth notes. The bottom two staves are for Cello and Double Bass. The music is in 4/4 time with a key signature of two sharps (F# and C#). The tempo is Adagio, with a metronome marking of 50 quarter notes per minute. The dynamics range from piano (p) to mezzo-forte (mf) and include a decrescendo (dim.) in the later measures. The score shows a melodic line in the violins and a rhythmic accompaniment in the piano and lower strings.

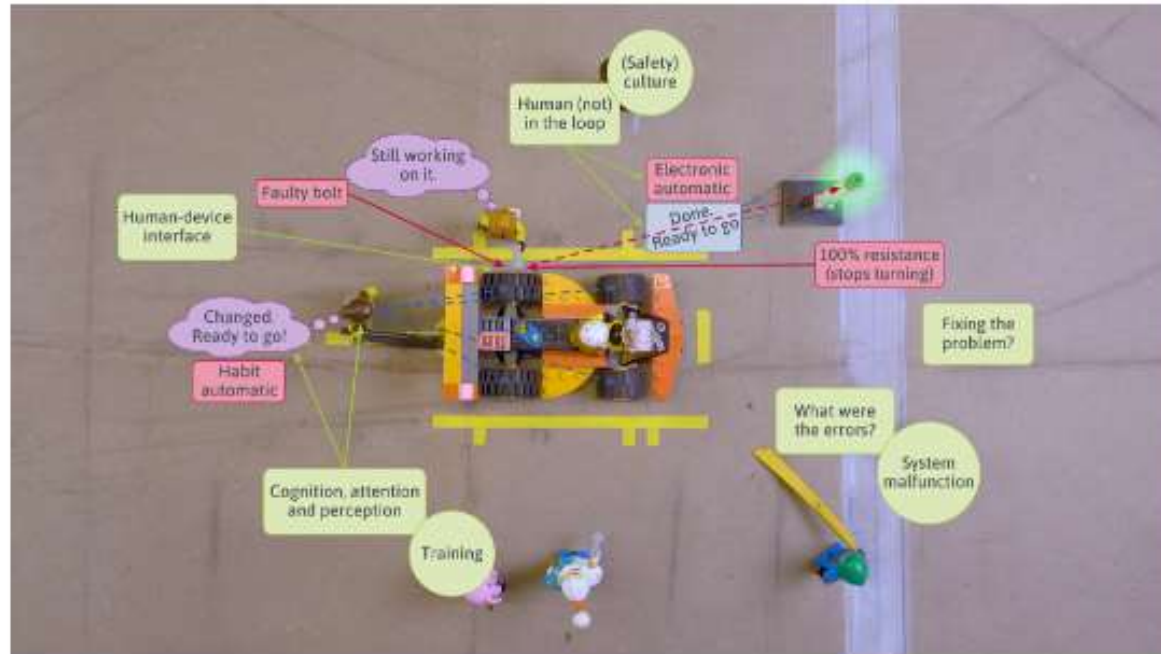




1.3.1 Eight main topics and the pitstop

[size: S][activity type: Acquisition][Difficulty: 1]

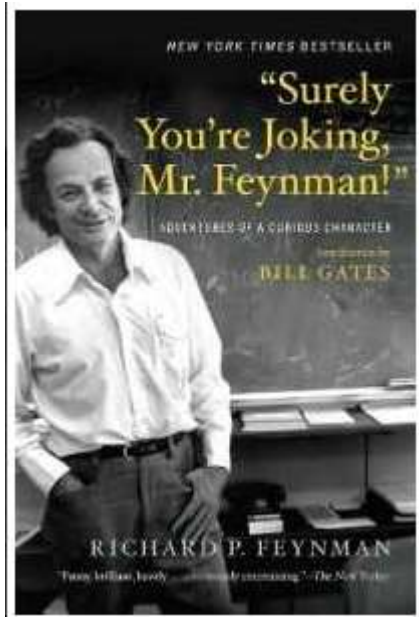
This image highlights the failures that may have occurred in the Formula 1 pitstop incident and shows the links to each of the topics covered in this course.



- **Modules 2-4 and Modules 7-10** Fixing the problem?
- **Module 2** What were the errors?
- **Module 3** Human-device interface
- **Module 4** Cognition, attention and perception
- **Module 7** System malfunction
- **Module 8** Safety culture / Factors implicated in the pitstop episode
- **Module 9** Training
- **Module 10** Human (not) in the loop when a machine makes decisions

Feynman's ants

Paradigms



Research Question

Can ants 'tell each other where food is, like bees can. Do they have a sense of geometry?' (Feynman & Leighton, 1985).





00:00



Island Paradise



Terminal A



Terminal B

Ferries to
Sugar Island
depart here

The windowsill

Nest
entrance



Island Paradise



Terminal A



The windowsill

Ferries to Sugar Island depart here

Terminal B

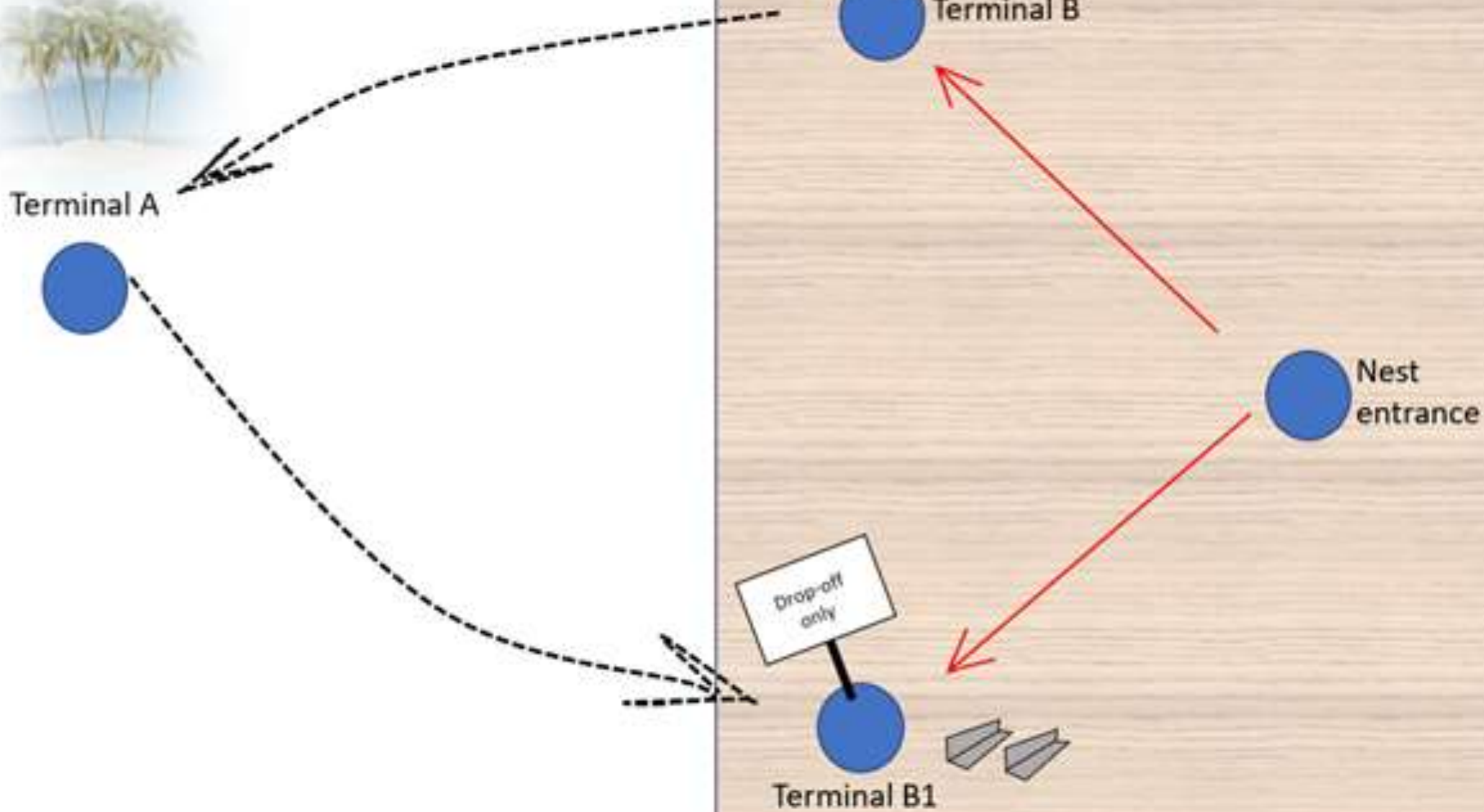


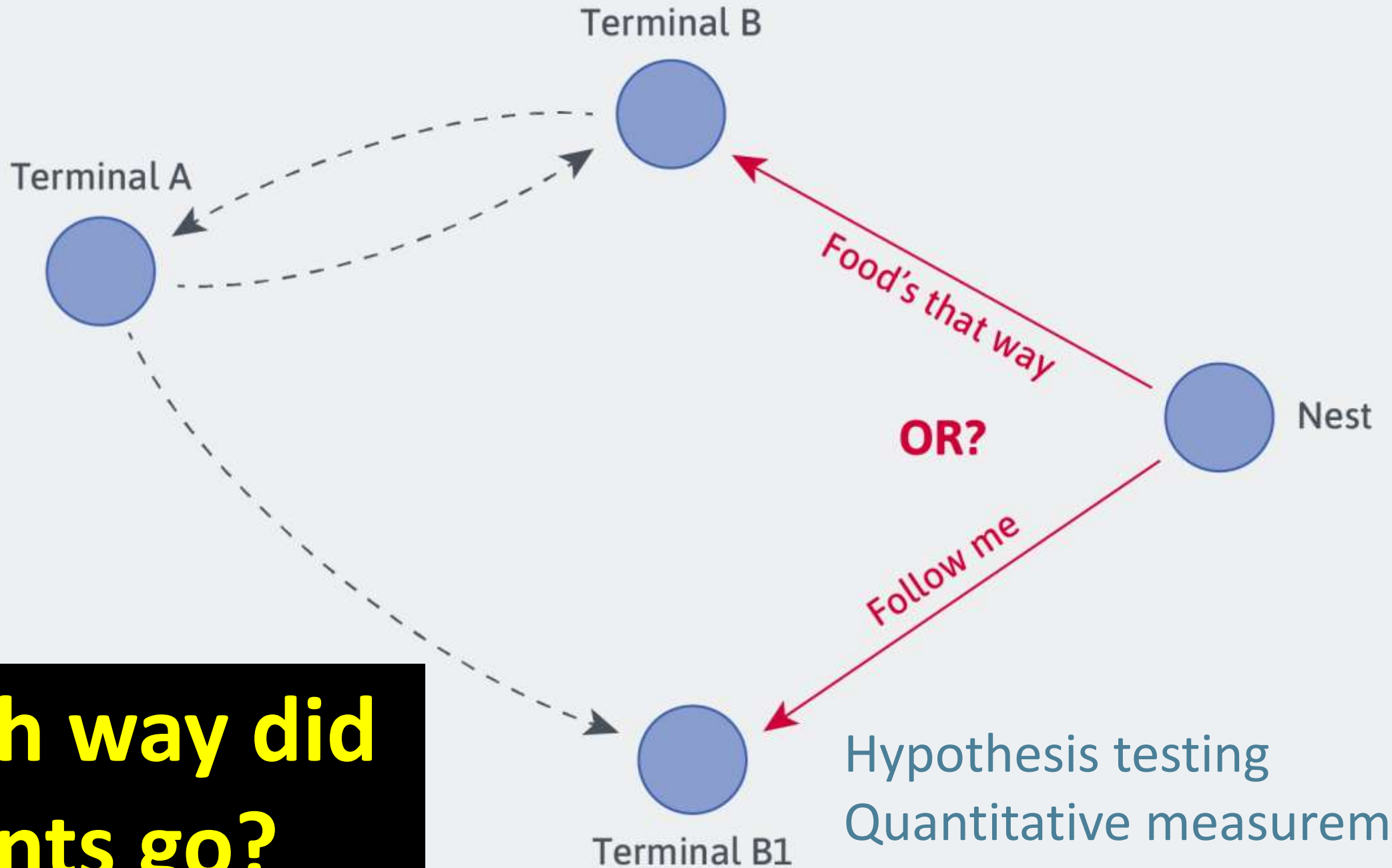
Nest entrance



Drop-off only

Terminal B1





**Which way did
the ants go?**



Revealing

“FUNCTIONALIST”

Hypothesis testing

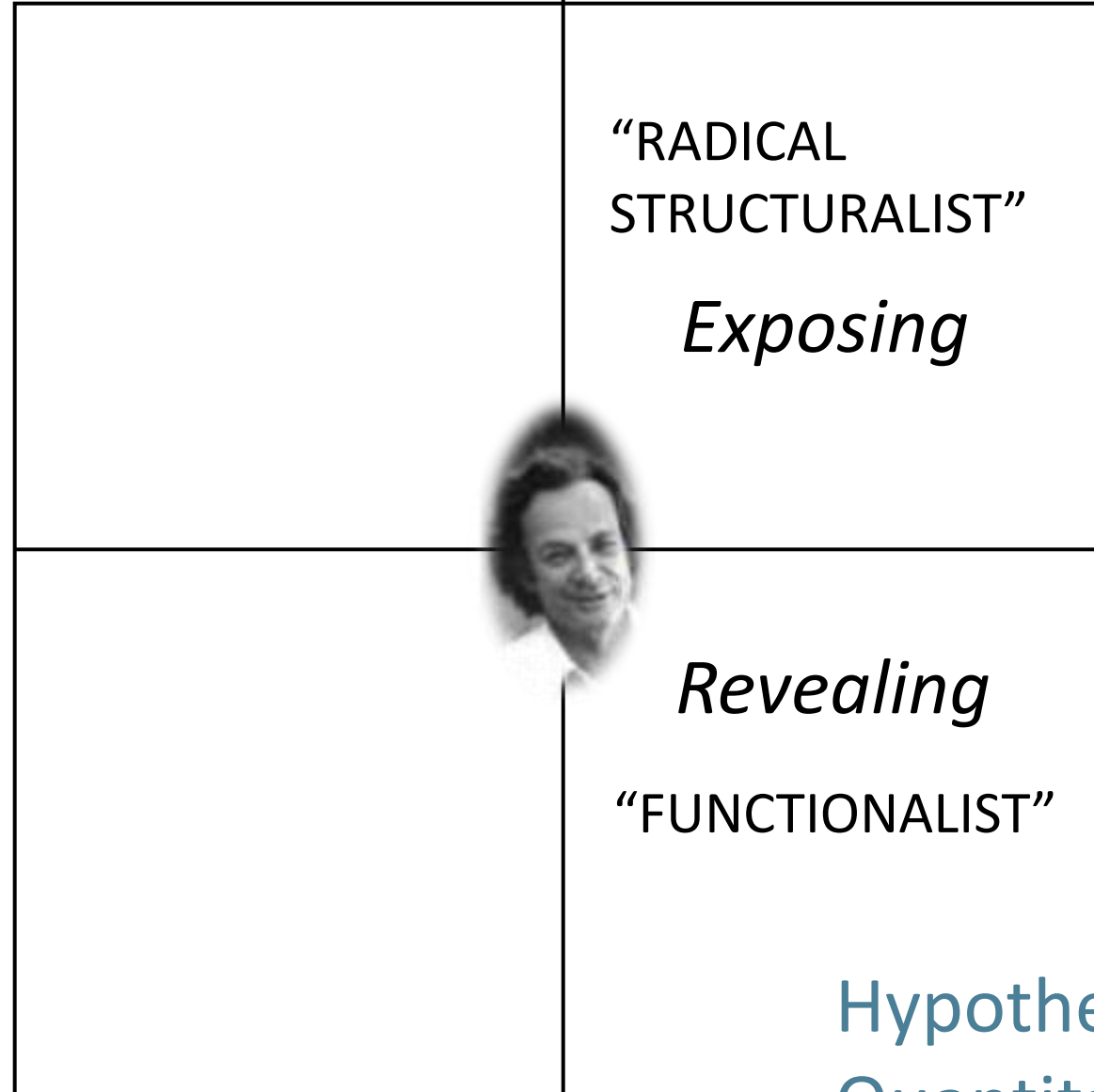
Quantitative measurement

Challenger
Disaster

Science to critical practice



Science to critical practice

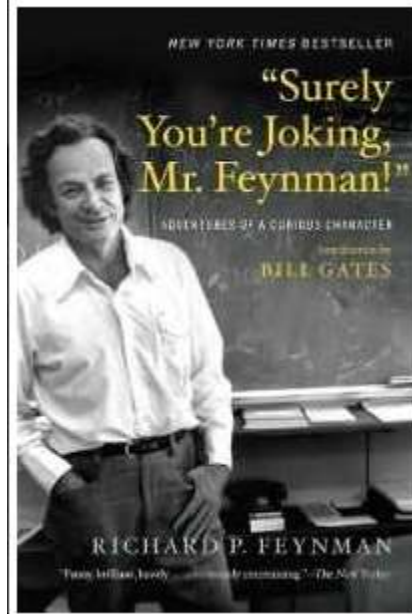


**Positivist /
Objective**

Hypothesis testing
Quantitative measurement

Why is he doing this? What does he want us to think?

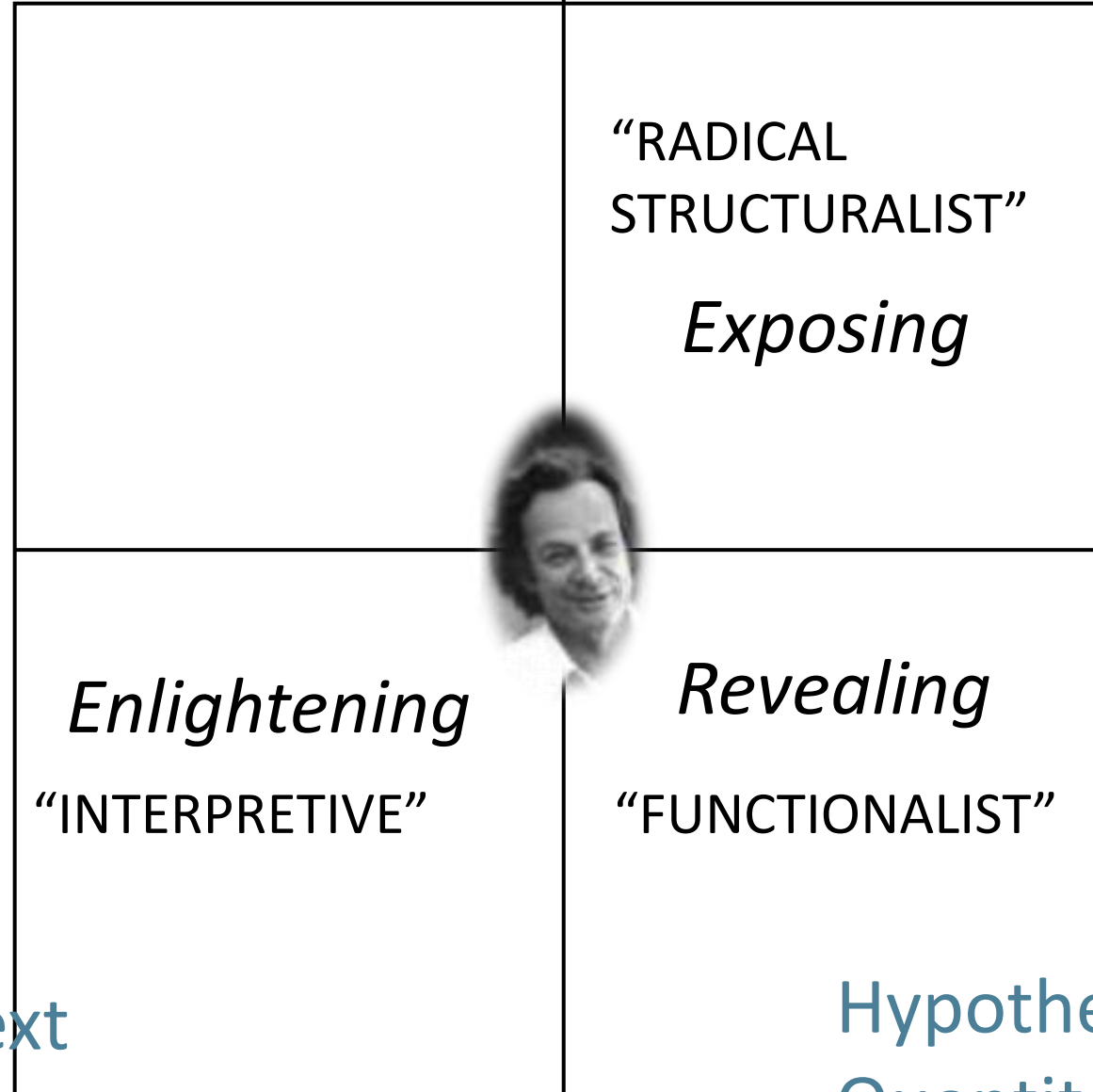
- natural curiosity
- enquiry takes on a life of its own;
- the thrill of the scientific chase; *laws* to be *discovered*.
- amateur enthusiast dabbling in biology AND physicist impatient with non-physical explanations.



Interpretation of text

Qualitative improvisation

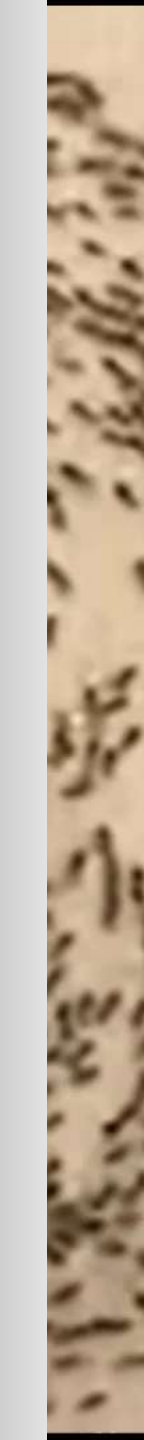
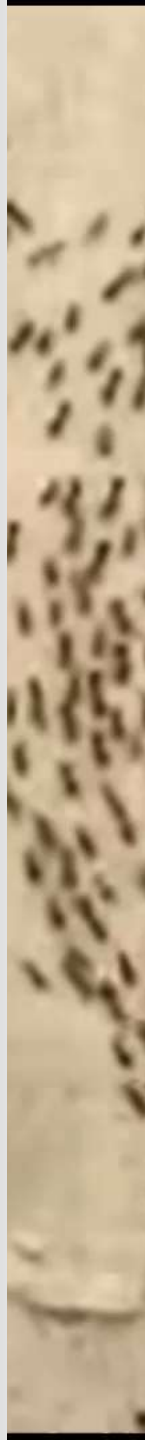
Science to critical practice



**Positivist /
Objective**

Interpretation of text
Qualitative improvisation

Hypothesis testing
Quantitative measurement



Feynman – prisoner of his time!

Joined up thinking but wrong

Outsmarted by ants!

Ecological or social !!!!!

Atomic bomb in 1945 effectiveness of the methods of physics.

Skinner box - isolate individual ants and to control the conditions as tightly as

Social factors ?



Science to critical practice

Joined up thinking but wrong

“RADICAL
HUMANIST”
Liberating

“RADICAL
STRUCTURALIST”
Exposing

**Subjective/
Social
Constructionist**

**Positivist /
Objective**



Enlightening
“INTERPRETIVE”

Revealing
“FUNCTIONALIST”

Interpretation of text
Qualitative improvisation

Hypothesis testing
Quantitative measurement

F doesn't do all these things

He is not all these thing

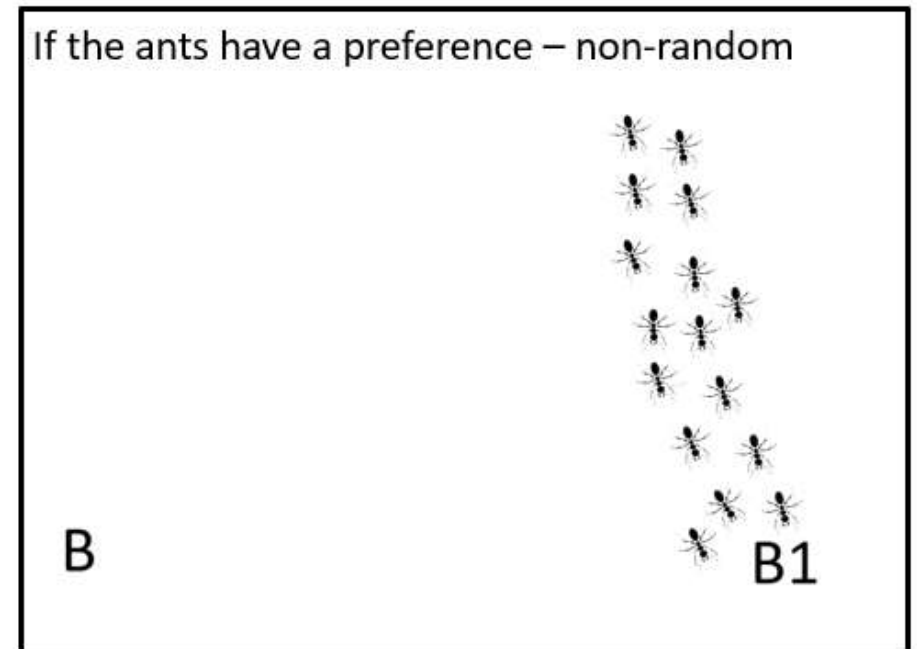
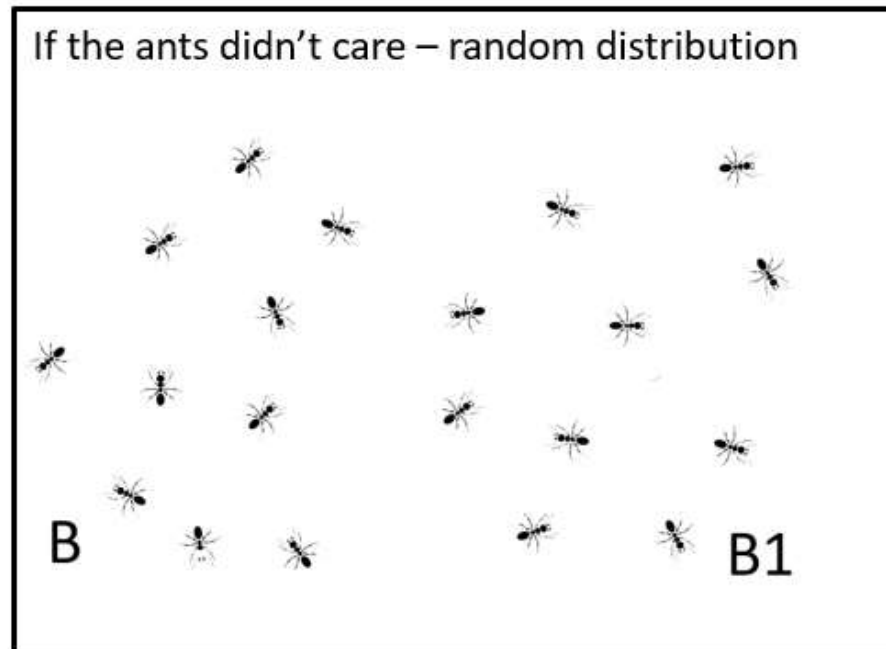
F is the tune-in-the-head
that carries these things



Hypothesis testing

Inductive and deductive reasoning

Statistical tests



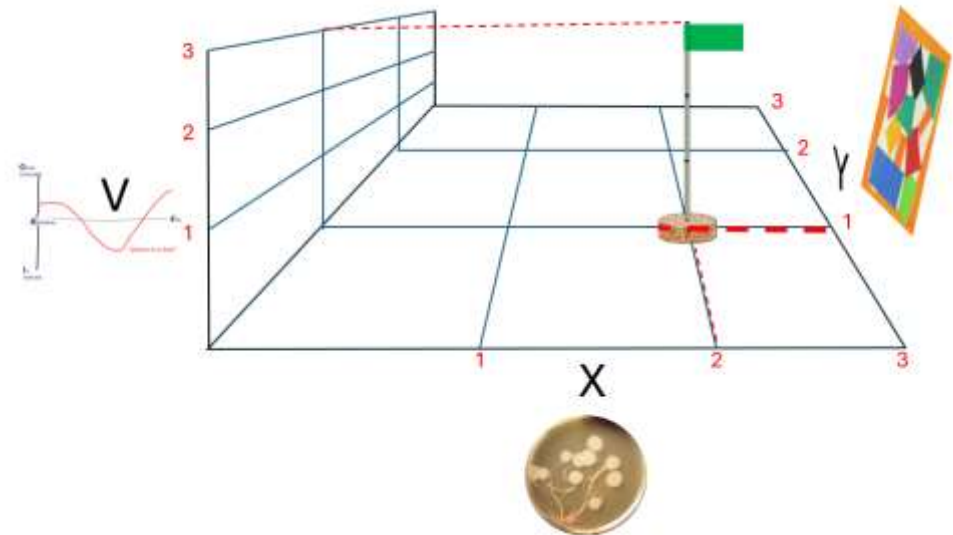
Rate the following in terms of X, Y, and V on a scale of 1-3

X Chemistry – nutrient – affordance

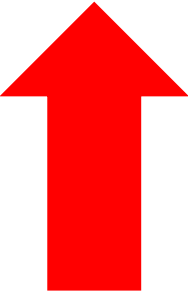
Y I could do that (feeling of ...)

V Story devices

Feynman's ants



Do you like to ...?	red
---------------------	-----



List all the words in **red** that you can remember

Any order

Experimental
psychologist

run

tall

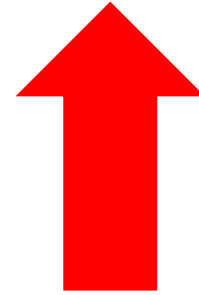
sing

Bill

self

Psychology of the tune in the head

Do you like to ...?	red
---------------------	-----



List all the words in **red** that you can remember

Any order

run

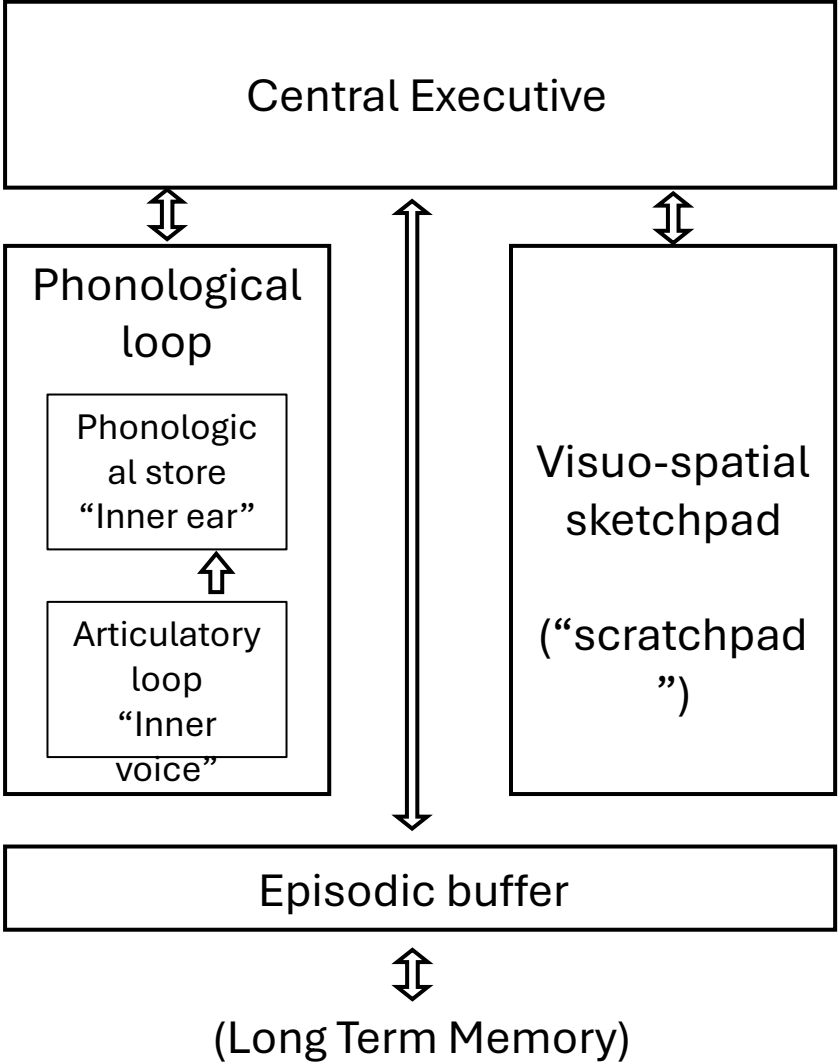
tall

sing

Bill

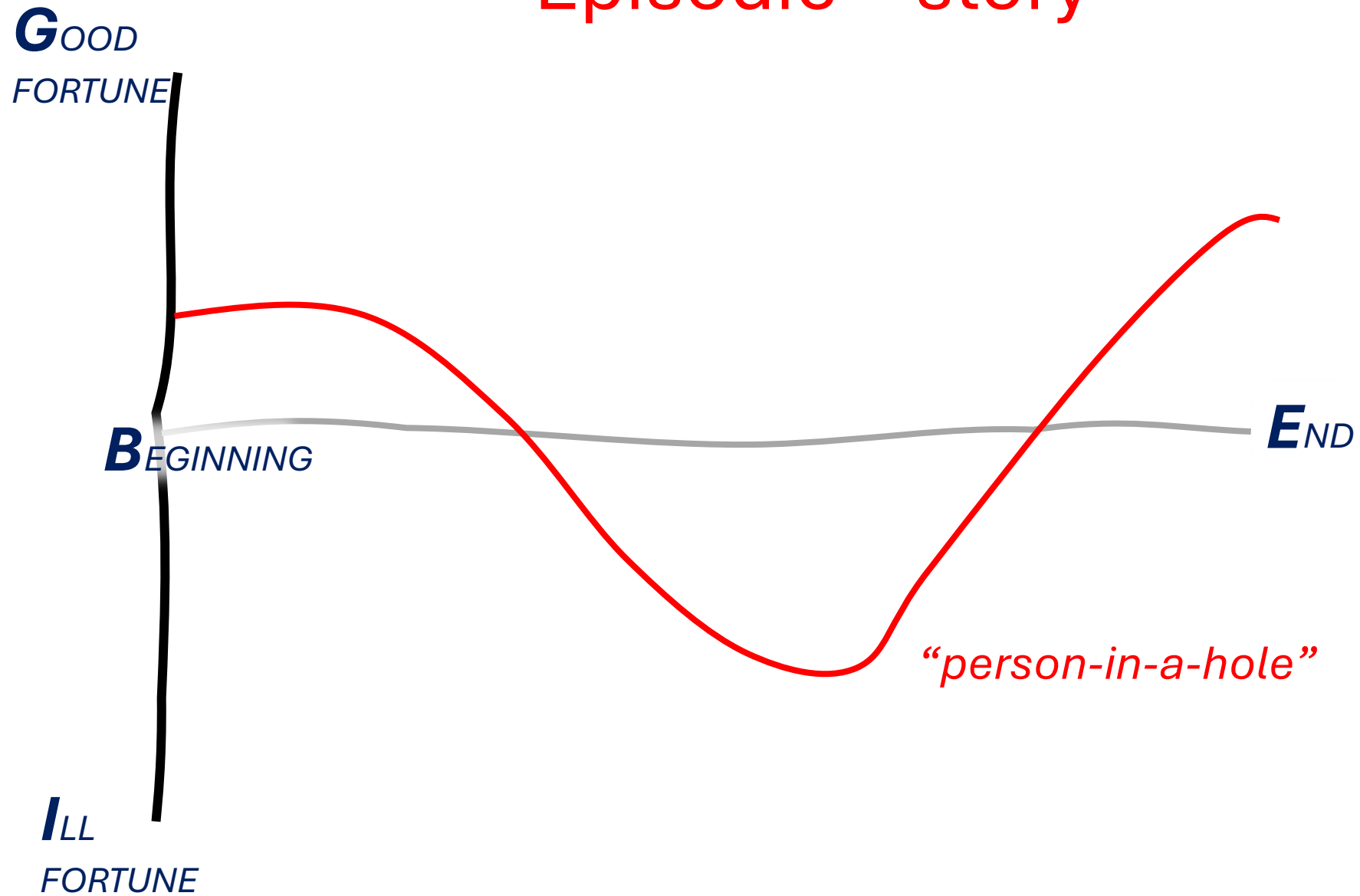
self

very busy



self stories flow short-cuts

Episodic = story



You are a super-secret agent
in a virtual world

Task

Retrieve a stolen formula from the *BadGuys*' safe

The safe has a voice-activated combination lock

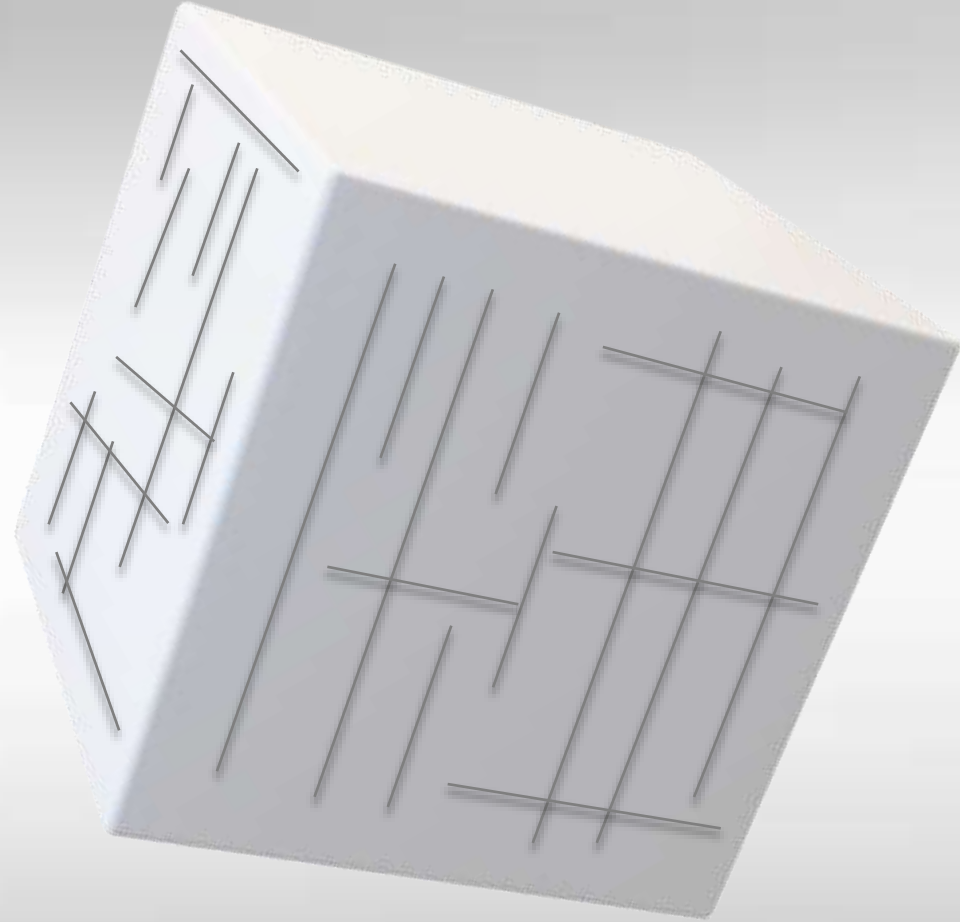
It's located in the core of a gravity-free sphere of white light
at the heart of the *BadGuys*' secret complex

All your physical devices were lost;
phone, pen, watch, everything.

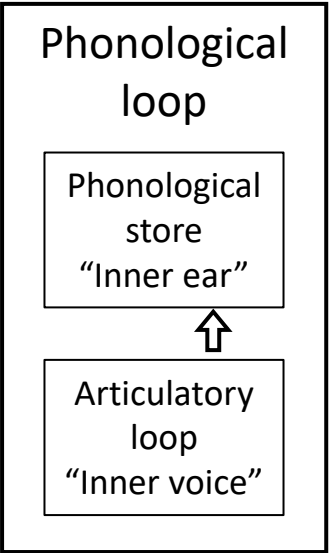


Your partner has gone to find the code for the combination lock
while you climb into the ventilation shaft
into the White Sphere.



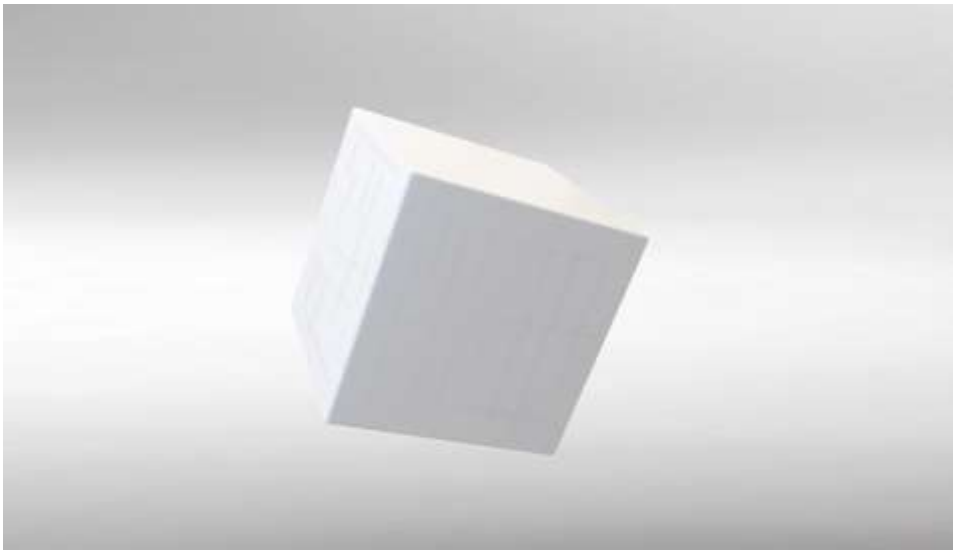


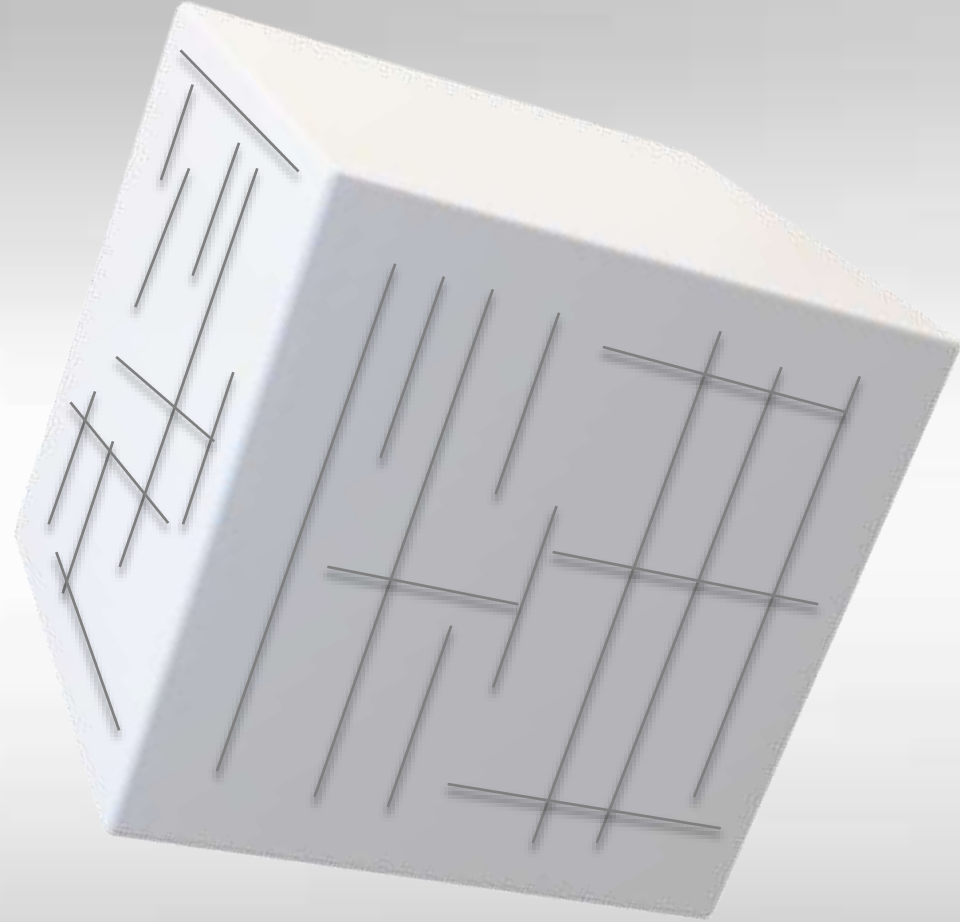




Visuo-spatial
sketchpad
("scratchpad")

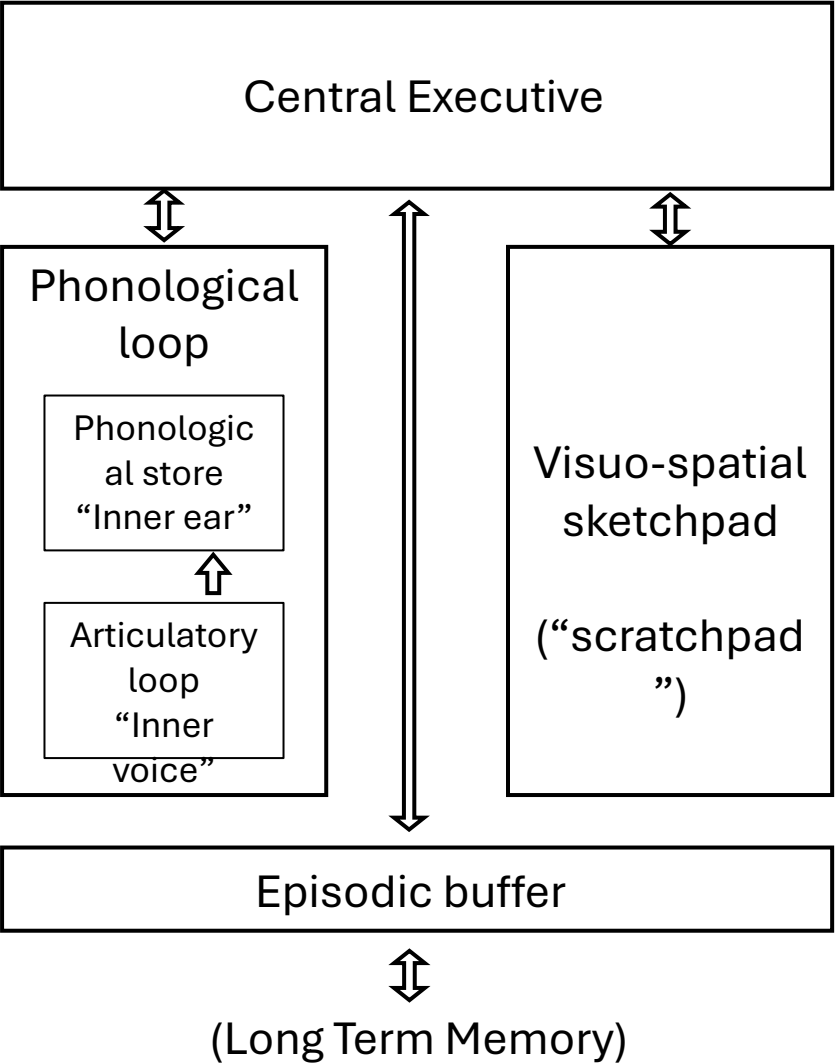
The diagram shows a single large box labeled "Visuo-spatial sketchpad ('scratchpad')".











stories



Half-remembered

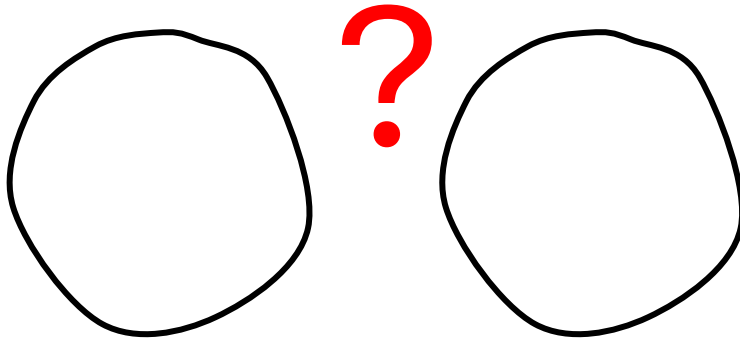
(tune-in-the-head)



*Sketch a functioning
bicycle*



Rebecca Lawson



Lawson, R. (2006). The science of cycology: Failures to understand how everyday objects work. *Memory & cognition*, 34(8), 1667-1675.

Vedanga
Kulkani





Gianluca Gimini





Velocipedia project brings hopeless bicycle drawings to life with digital renders



Dezeen.com

Gianluca Gimini

Liam Tilbrook | 19 June 2016 | 2 comments

Yet- We Can't Retain Mechanism

- For artifacts, biological systems, and non-living natural systems...the same story
- Even when there is mastery, it decays rapidly
- Mechanistic details seem to decay more rapidly than our immediate intuitions suggest

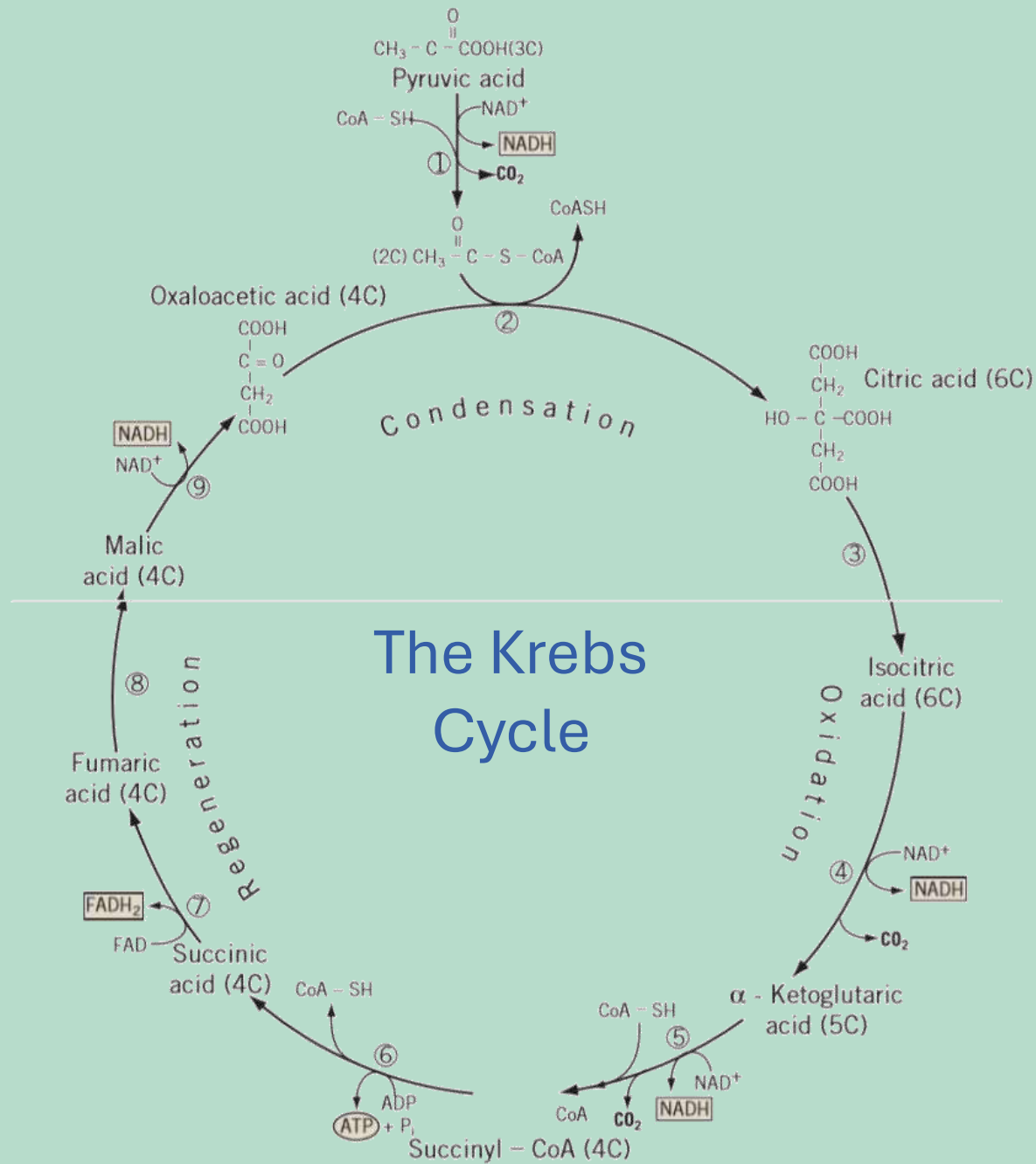
UC San Diego
DEPARTMENT OF PSYCHOLOGY

UC San Diego
DEPARTMENT OF PSYCHOLOGY

COLLOQUIUM SPEAKER SERIES
Dr. Frank Keil
The University

https://www.youtube.com/results?search_query=frank+keil+uc+san+dieg





citric acid cycle
no idea

citric acid
comes
into
system

something
happens

something
is broken down

something
is different



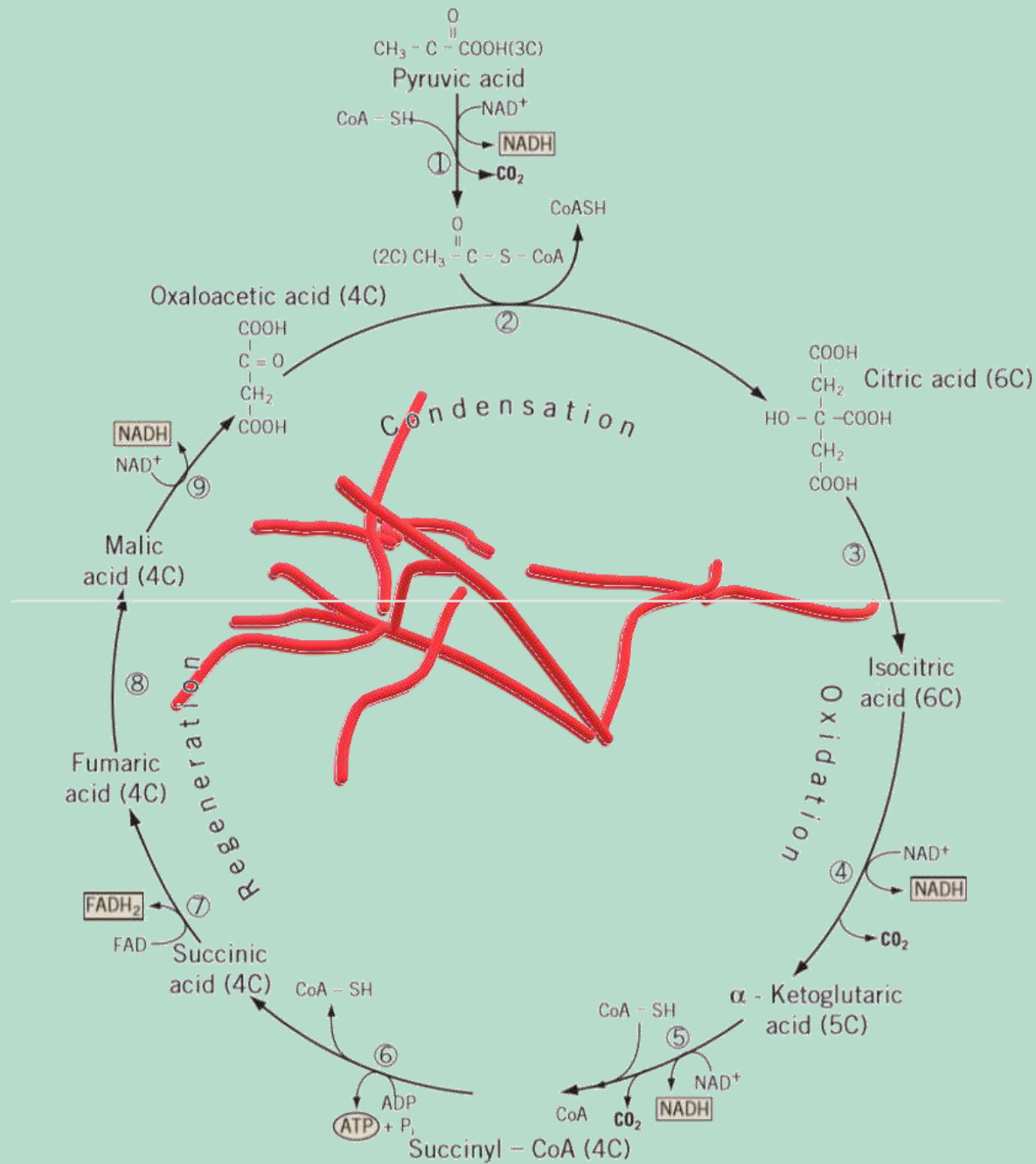
KREBS CYCLE





Aka "I don't know"

Aka "I don't know"





White sphere



Memory

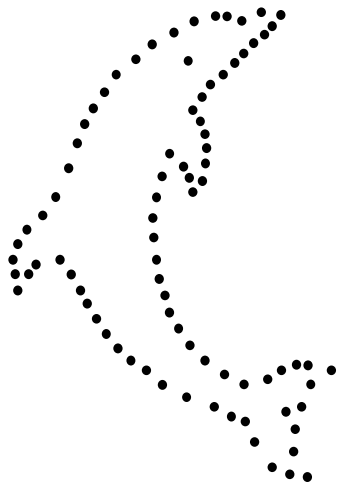


X-Y-V activity



Feynman's Ants

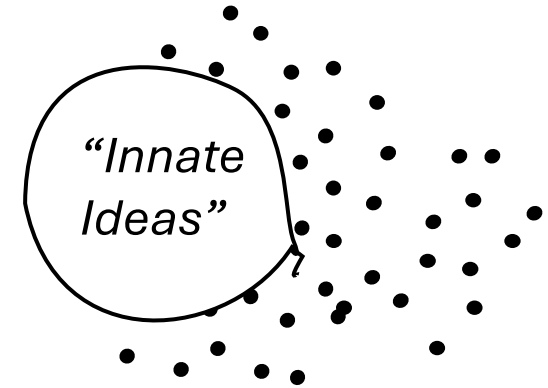
Joining the dots



Write what I just told you about fish

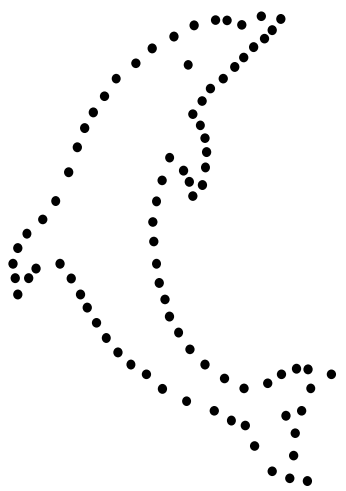
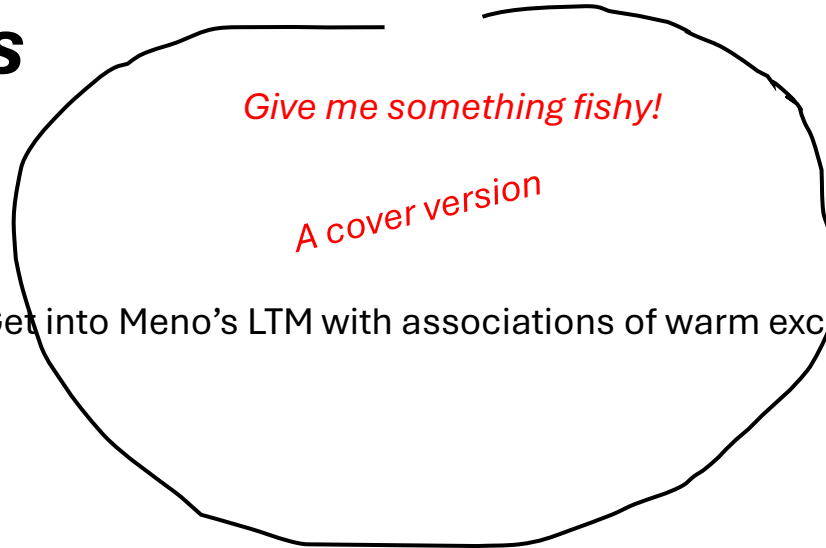


Answer questions 1-28

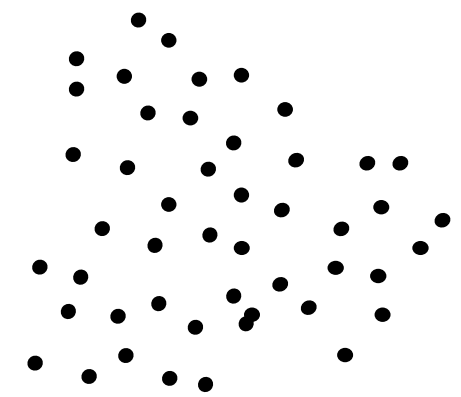


Tell me about fish

Joining the dots



Write what I just told you about fish



Tell me about fish



Answer questions 1-28



White sphere



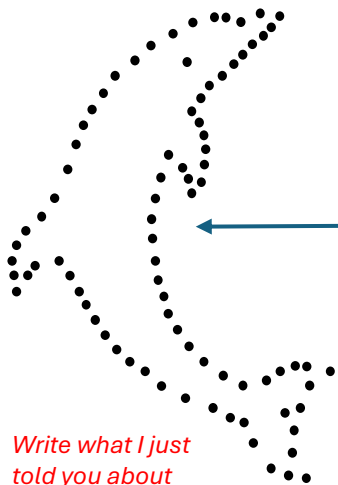
Memory



X-Y-V activity

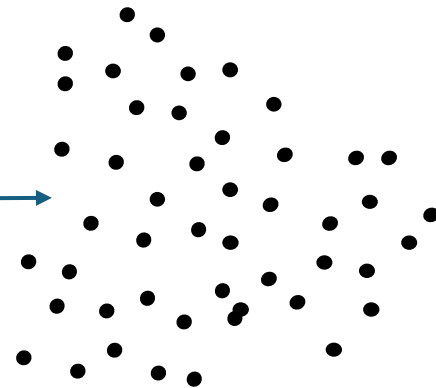
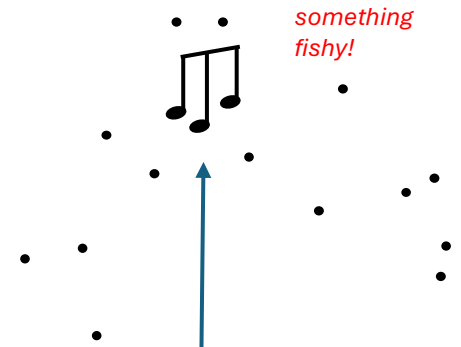


Feynman's Ants

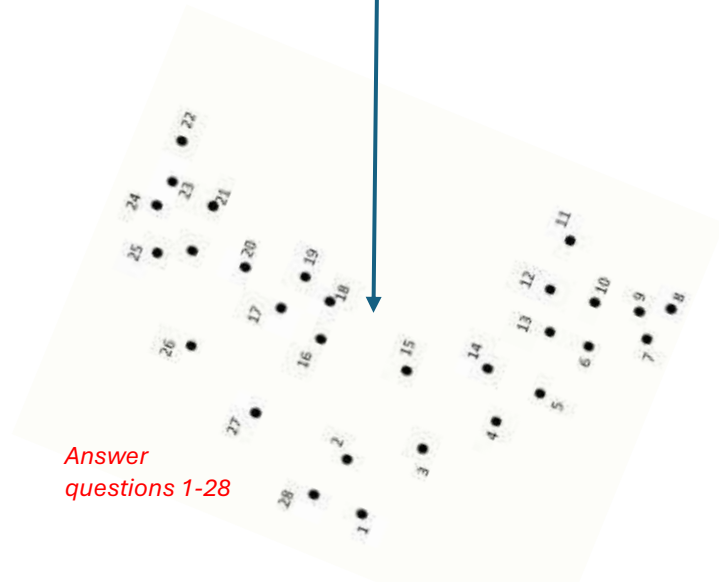


Write what I just told you about fish

Give me something fishy!

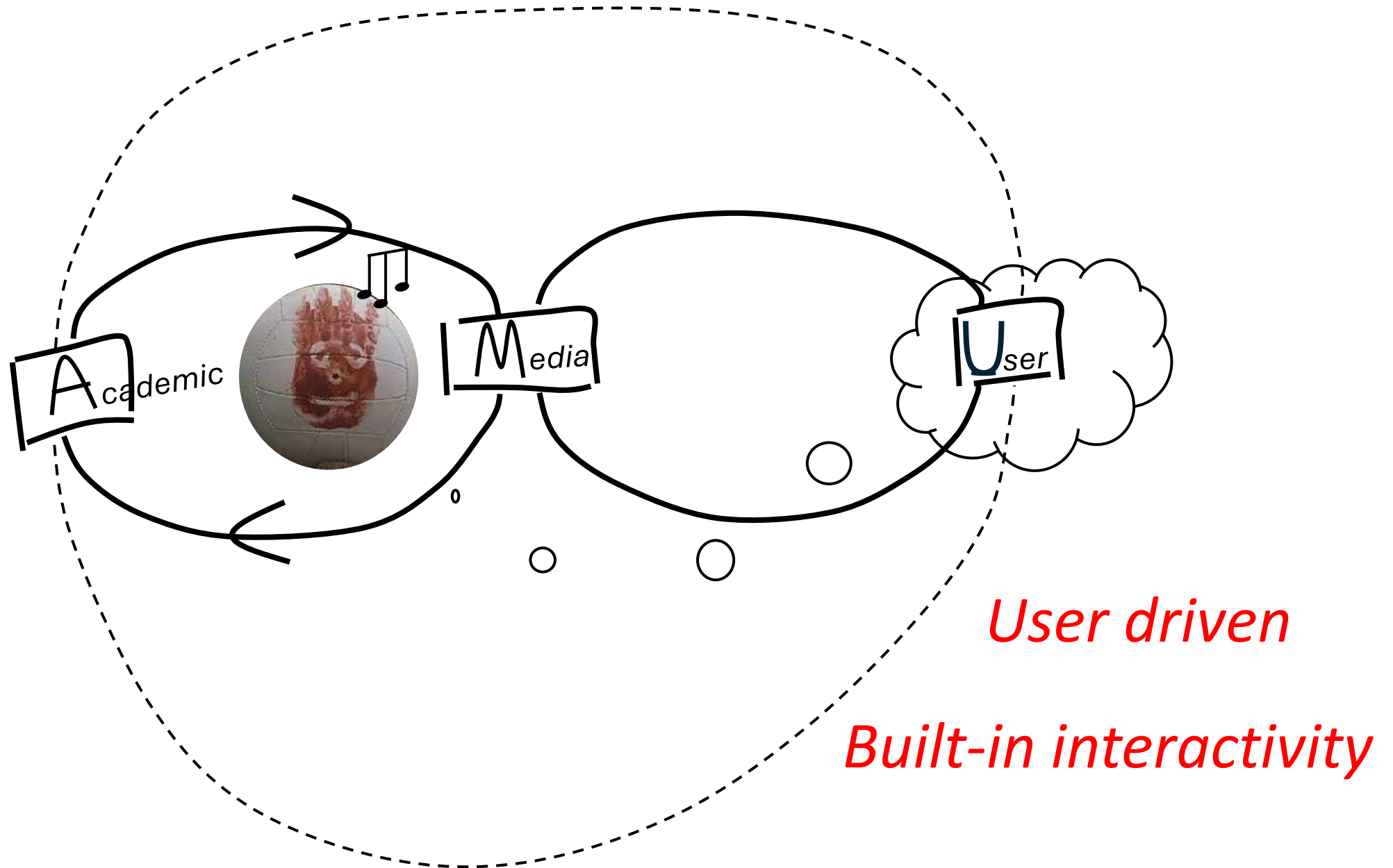


Tell me about fish



Answer questions 1-28

Media in Mind *Tune-in-the-head*



Media in Mind *Tune-in-the-head*



User driven

Built-in interactivity

Encourages, in user, creative responses to the material

*Encourages, M/A, careful thought about what counts as
“material” or “content”*

Information is a small component.

Media in Mind

Greg Fantham

Heriot-Watt Online

“Tune-in-the-head”

