DUAL CODING WITH TEACHERS

OLI CAV

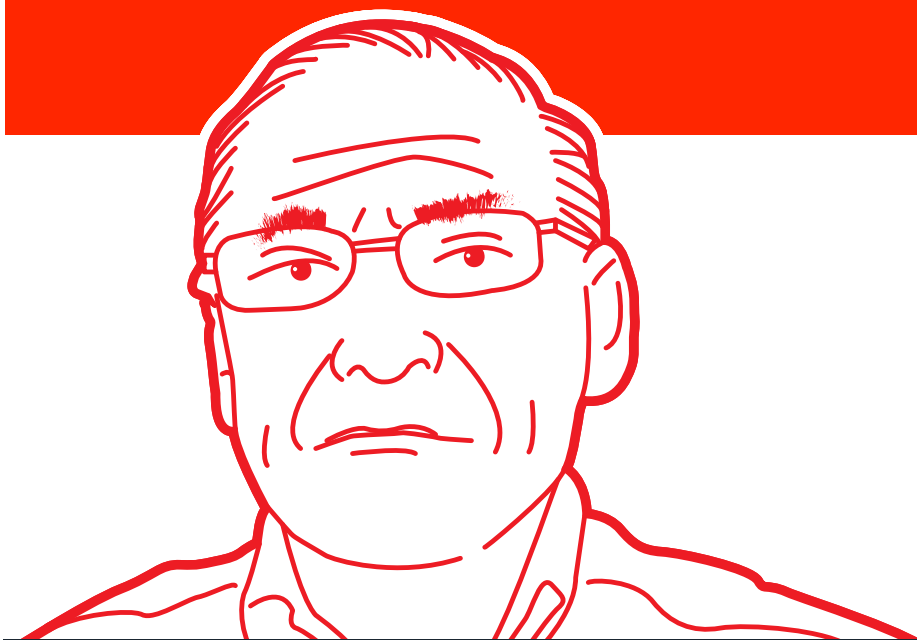@olicav

olicav.com

oliver@olicav.com

*The mind regards
ideas as objects.*

MIND IN MOTION
2019, P.184

BARBARA TVERSKY

OLI
CAV

THE SEQUENCE

PROBLEM 1

1

VANISHING SPEECH

TRANSIENT INFORMATION

PROBLEM 2

2

COMPLEX TEXT

COMPUTATIONAL INEFFICIENCY

A SOLUTION

3

IDEAS AS OBJECTS

VISIBLE SCHEMA

YOUR POSITIONS

OLI
CAV

OLI
CAV
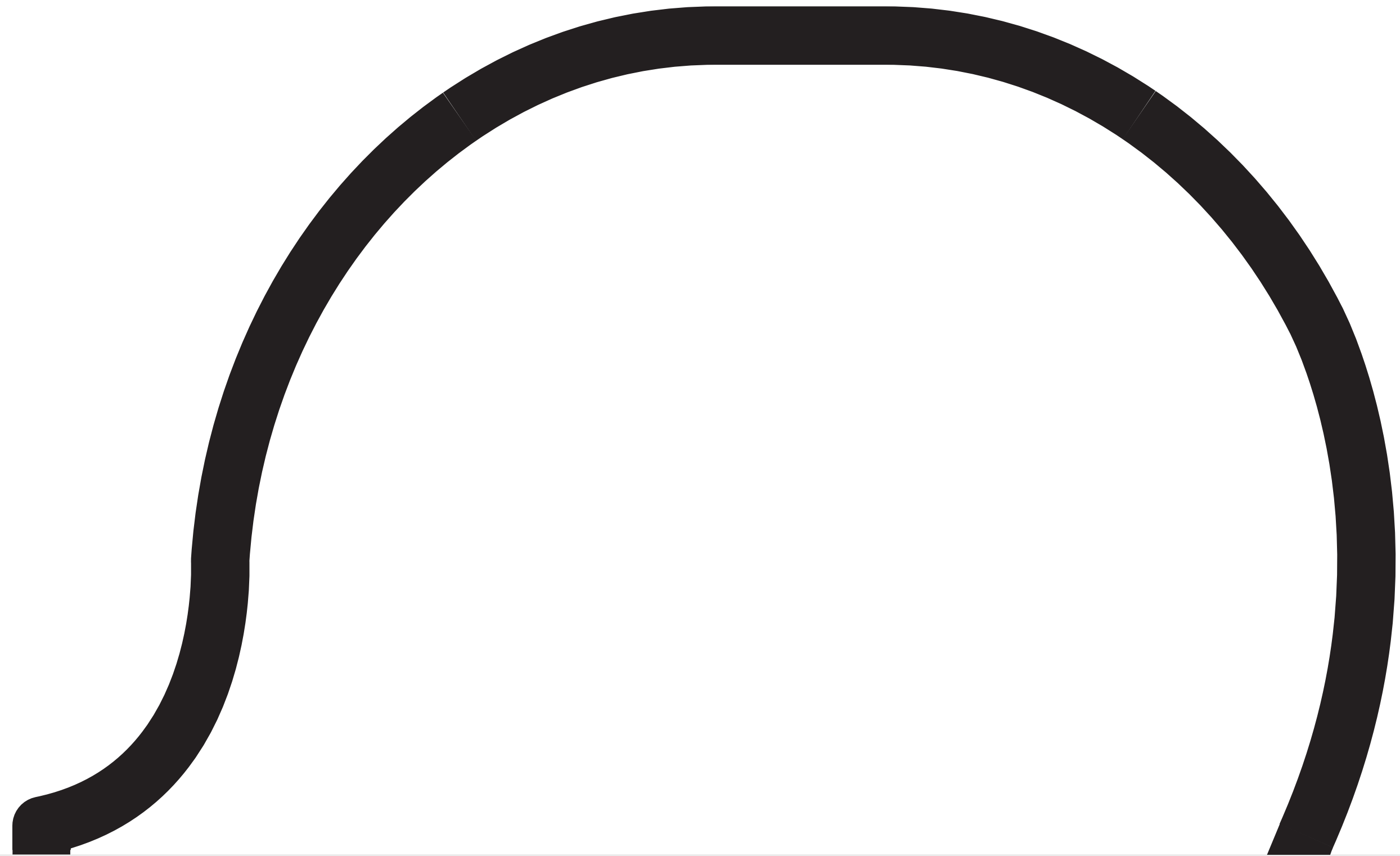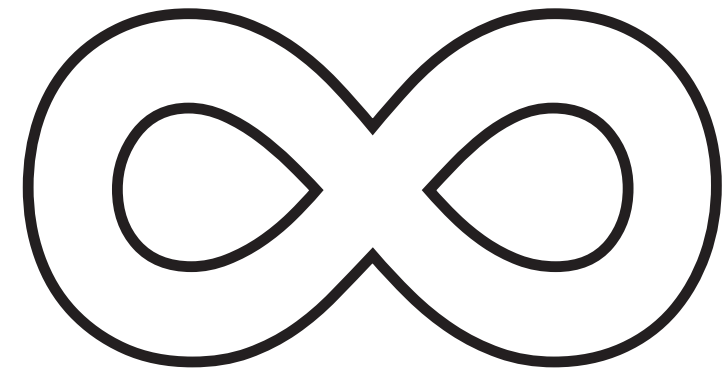
WORKING
MEMORY

∞

LONG TERM
MEMORY

WORKING
MEMORY

1

LONG TERM
MEMORY

WORKING
MEMORY

VISUAL
STIMULI

OLI
CAV

∞

LONG TERM MEMORY

WORKING MEMORY

VISUAL STIMULI

VERBAL STIMULI

1

OLI CAV
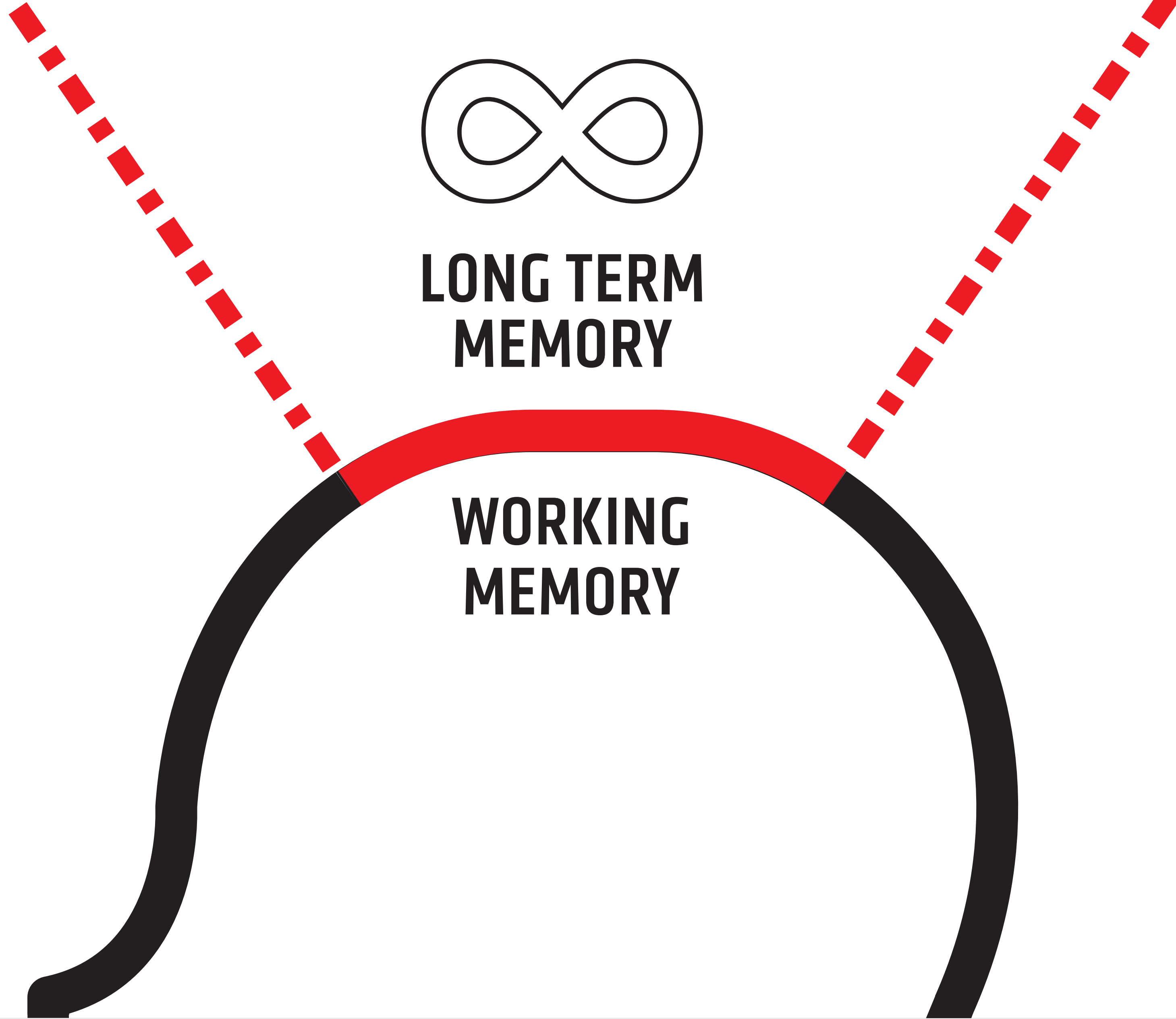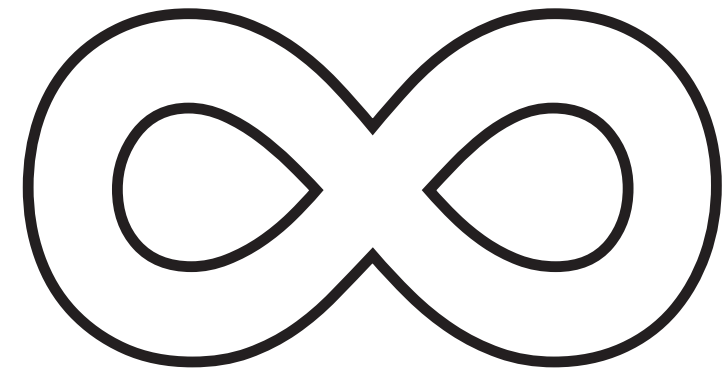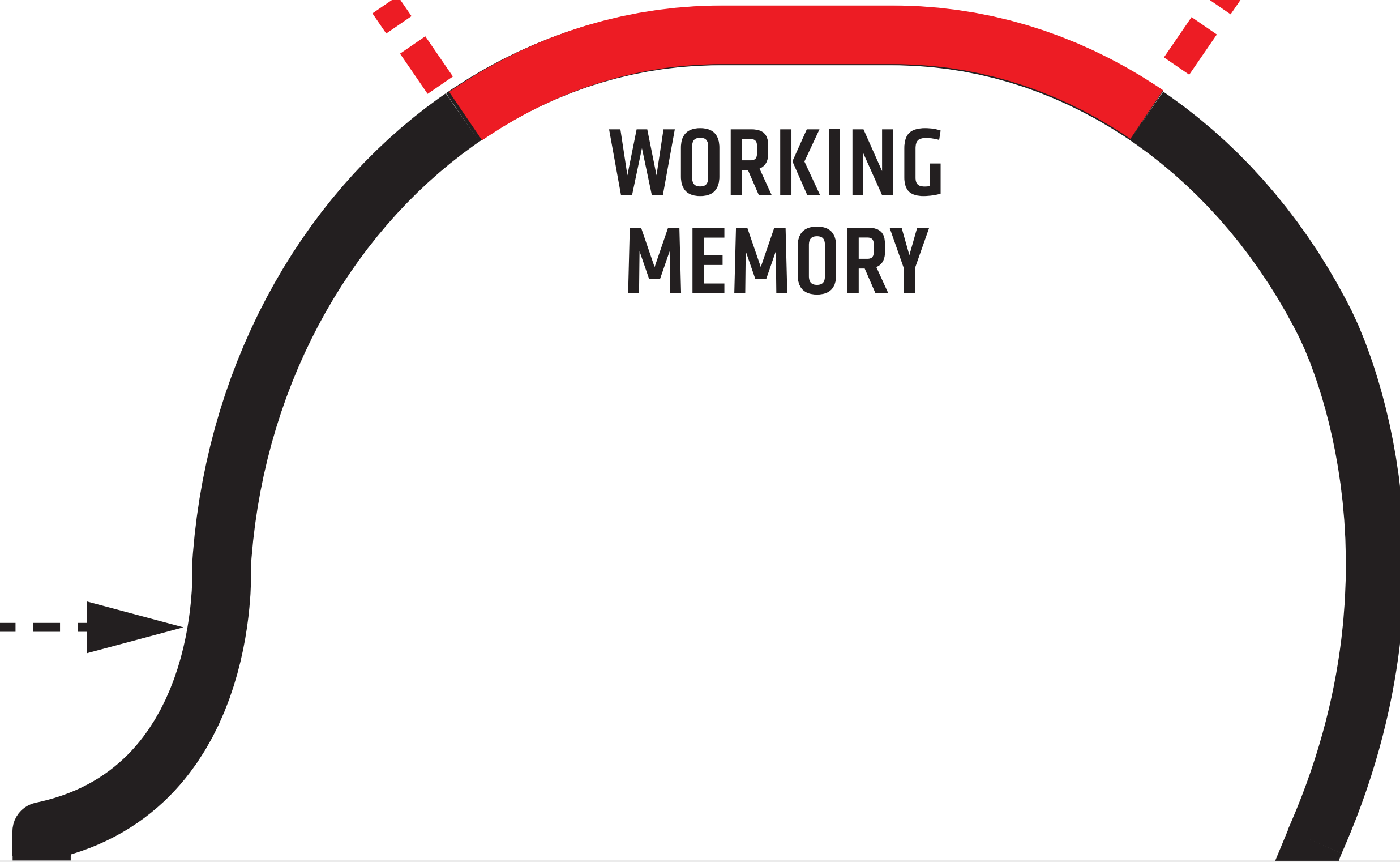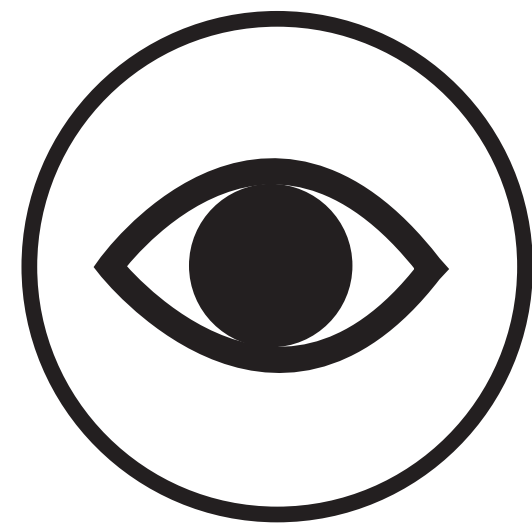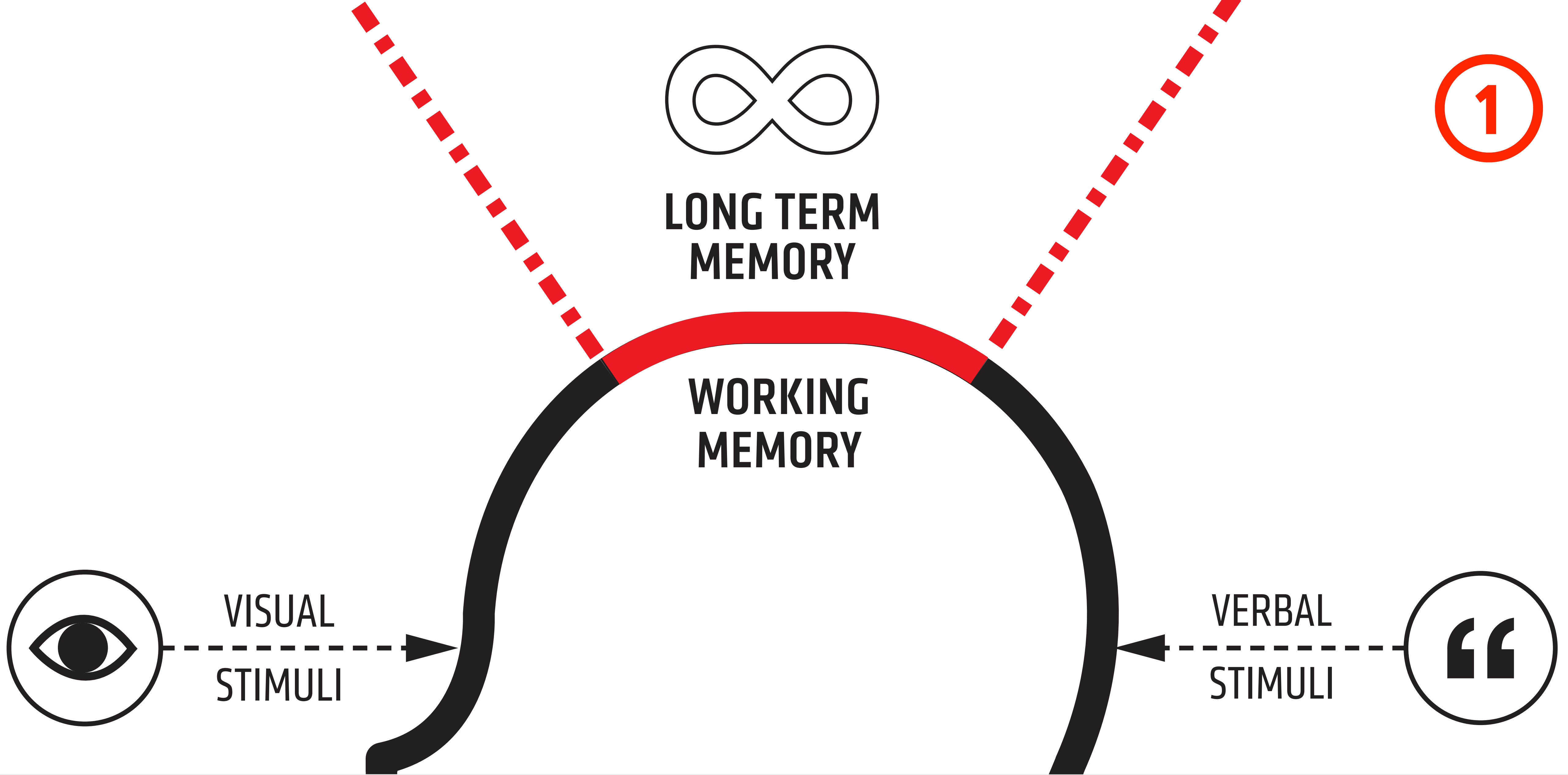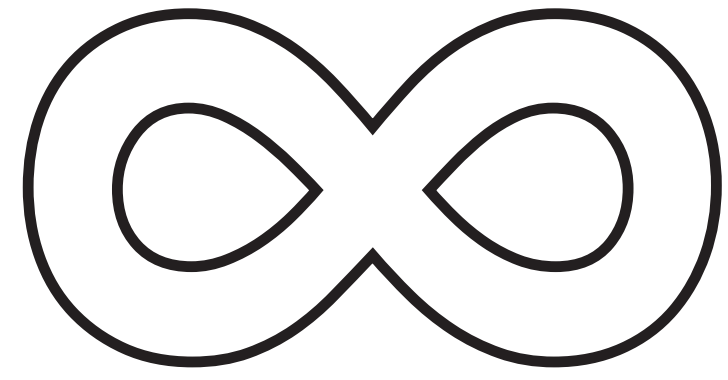
LONG TERM MEMORY

WORKING MEMORY

VISUOSPATIAL SKETCHPAD
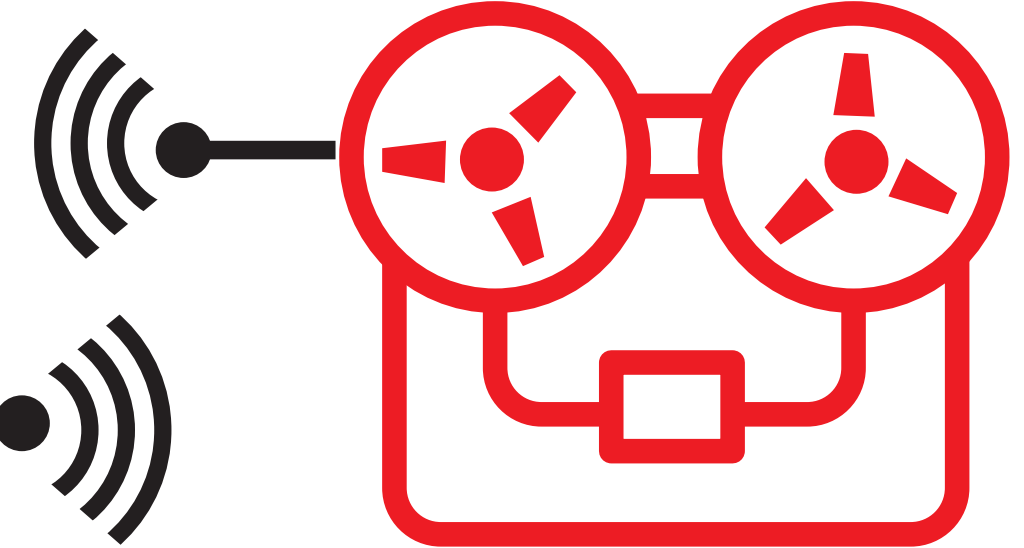
VISUAL STIMULI

VERBAL STIMULI

1

OLI CAV

SKETCHPAD

LOOP

TRIGGER

1

2

OLI CAV

SKETCHPAD

LOOP

TRIGGER

NON-LINEAR

1

2

OLI CAV

SKETCHPAD

LOOP

TRIGGER

1

2

NON–LINEAR

LINEAR

SYNCHRONOUS
PROCESSING

SEQUENTIAL
PROCESSING

EASIER TO
UNDERSTAND

OLI
CAV
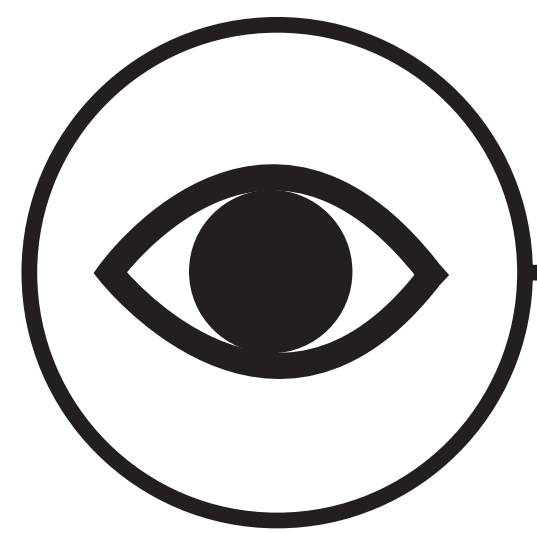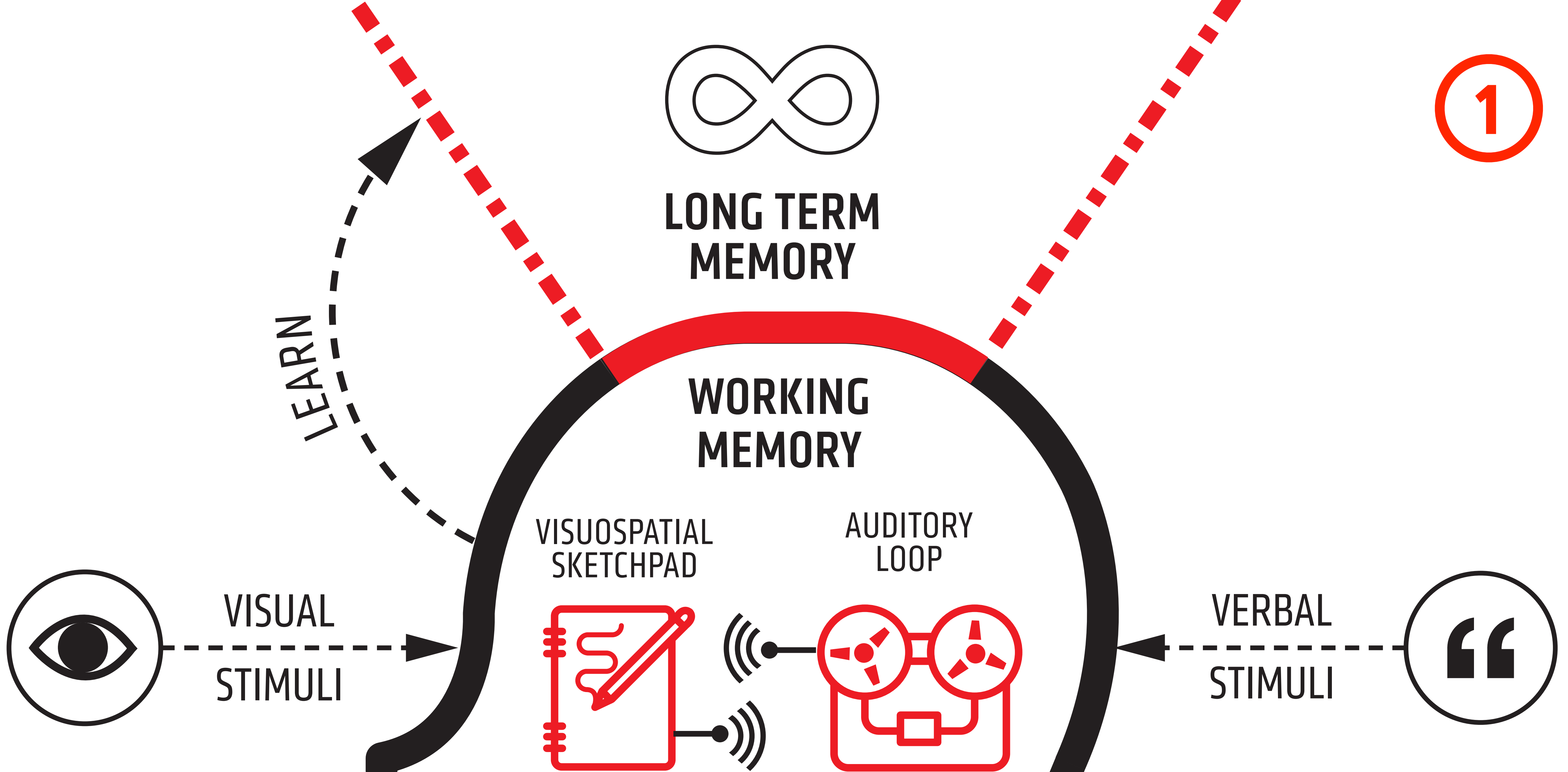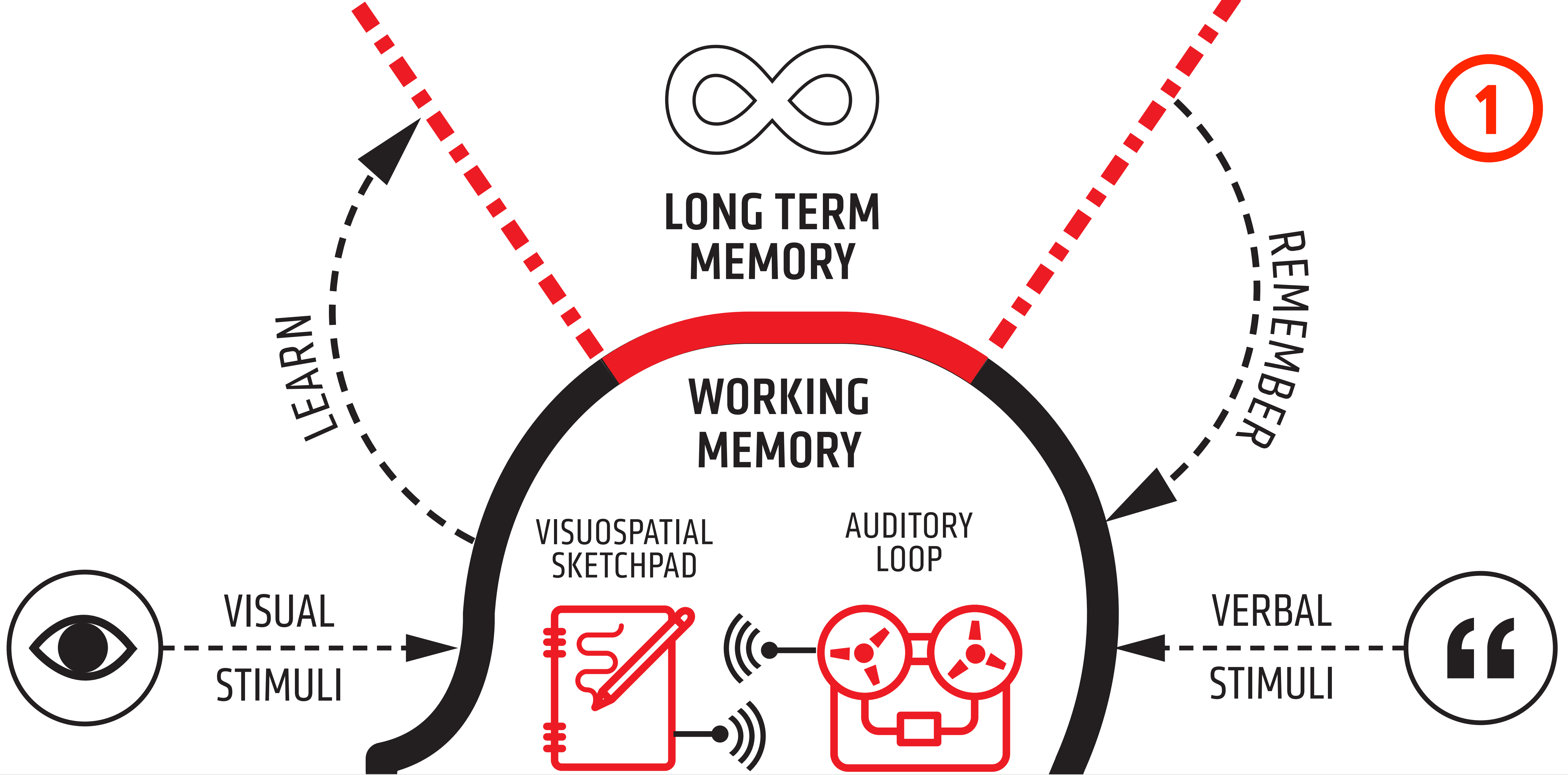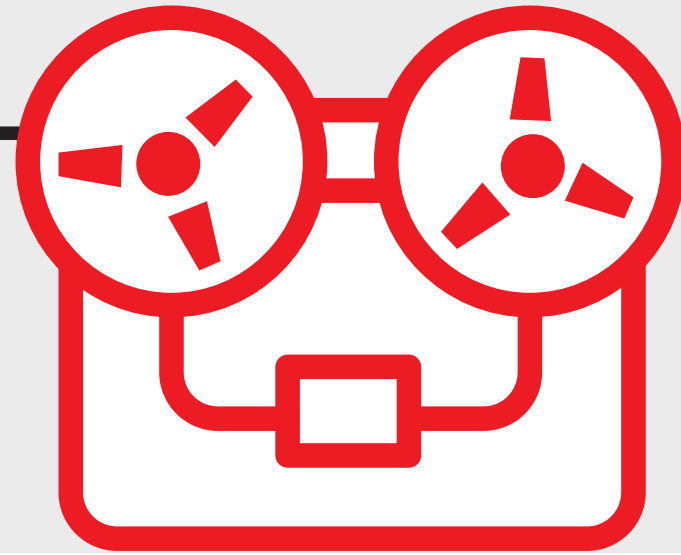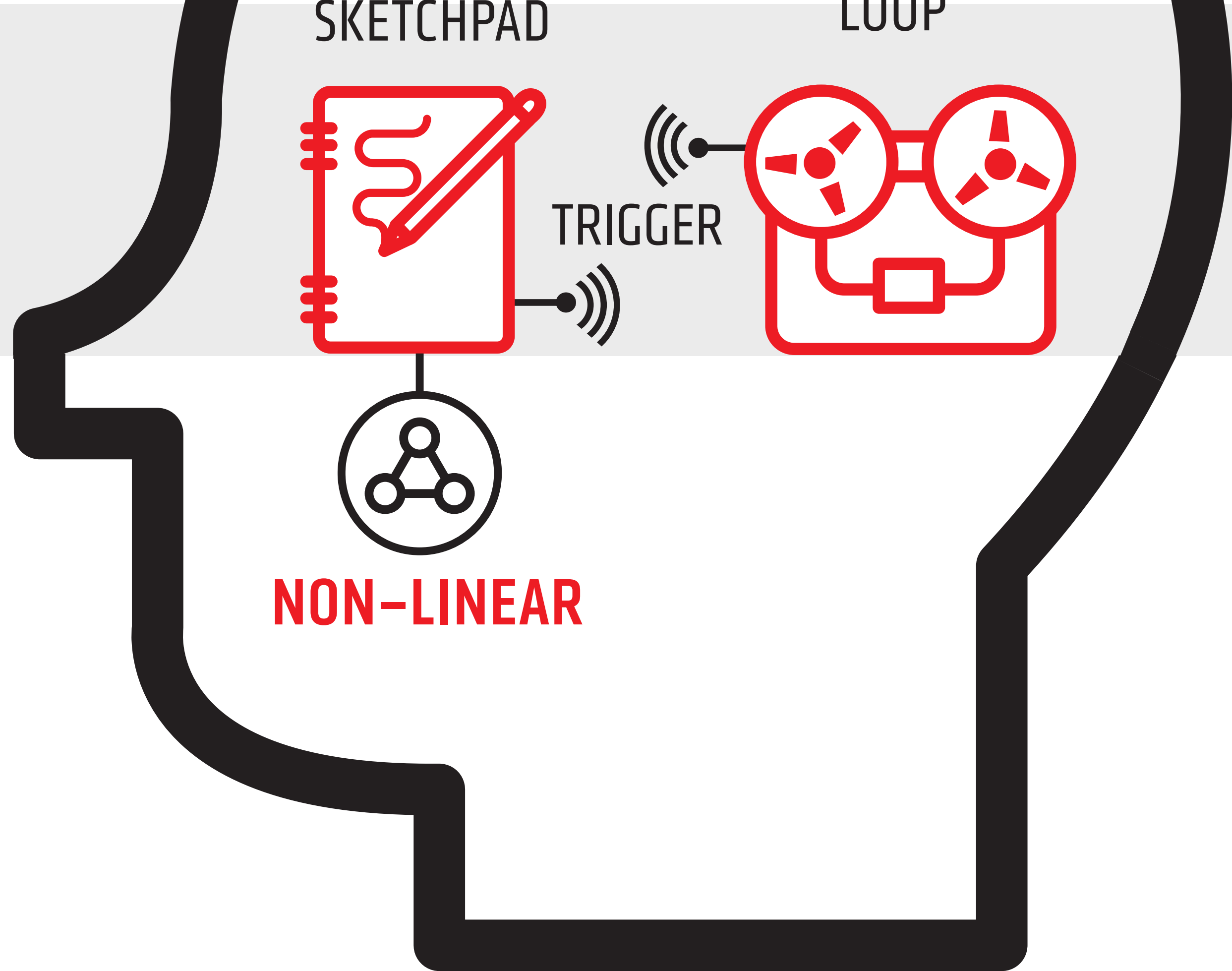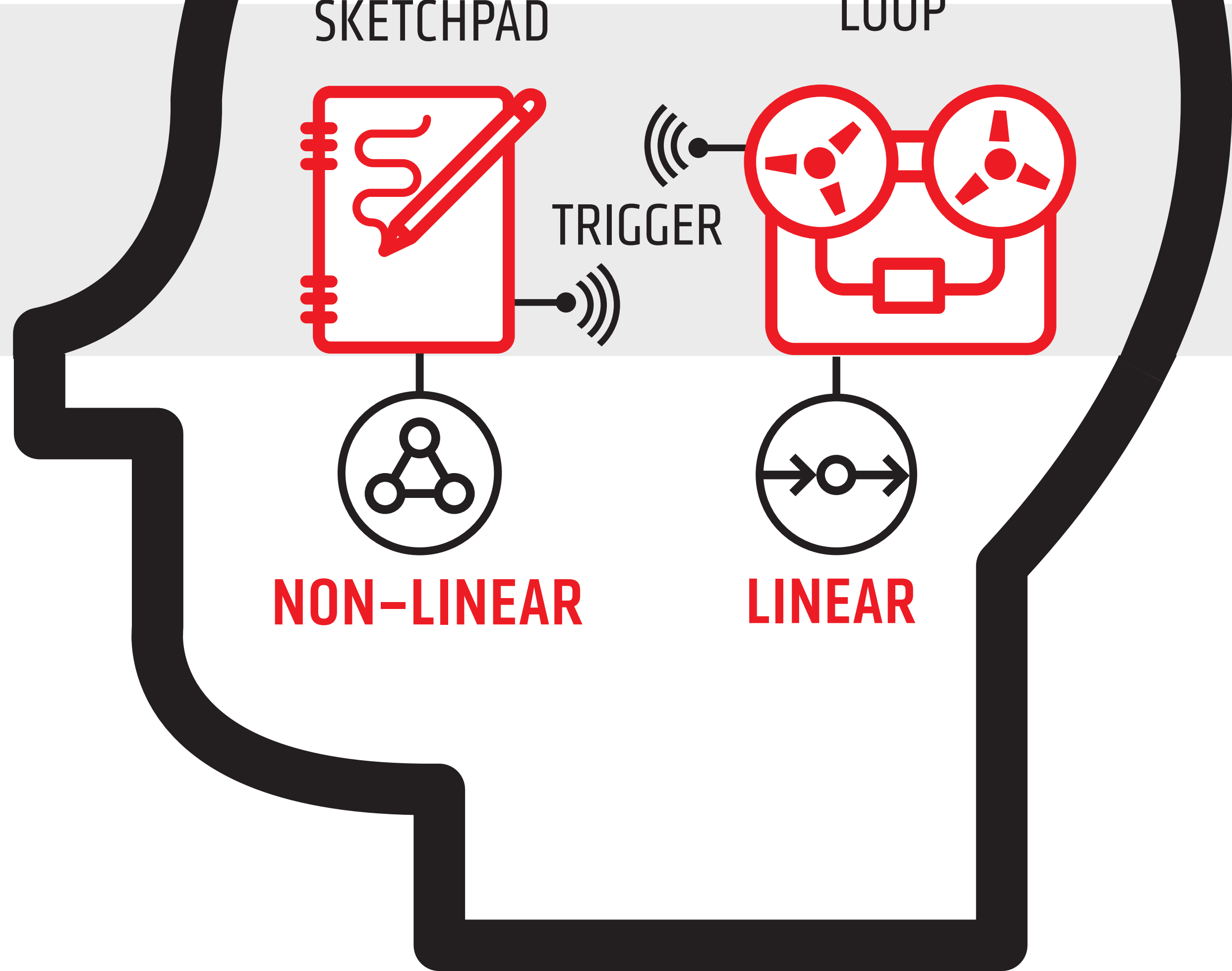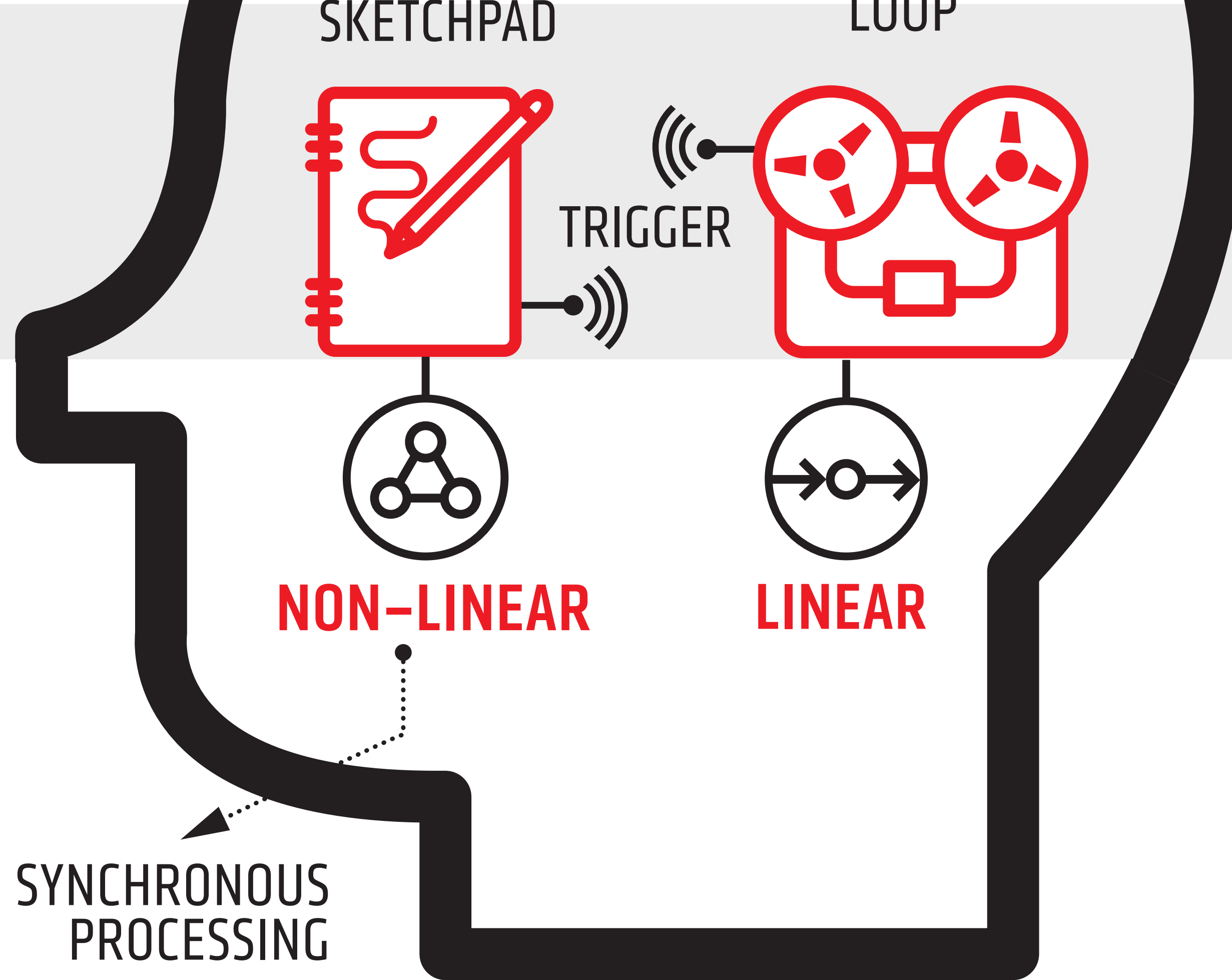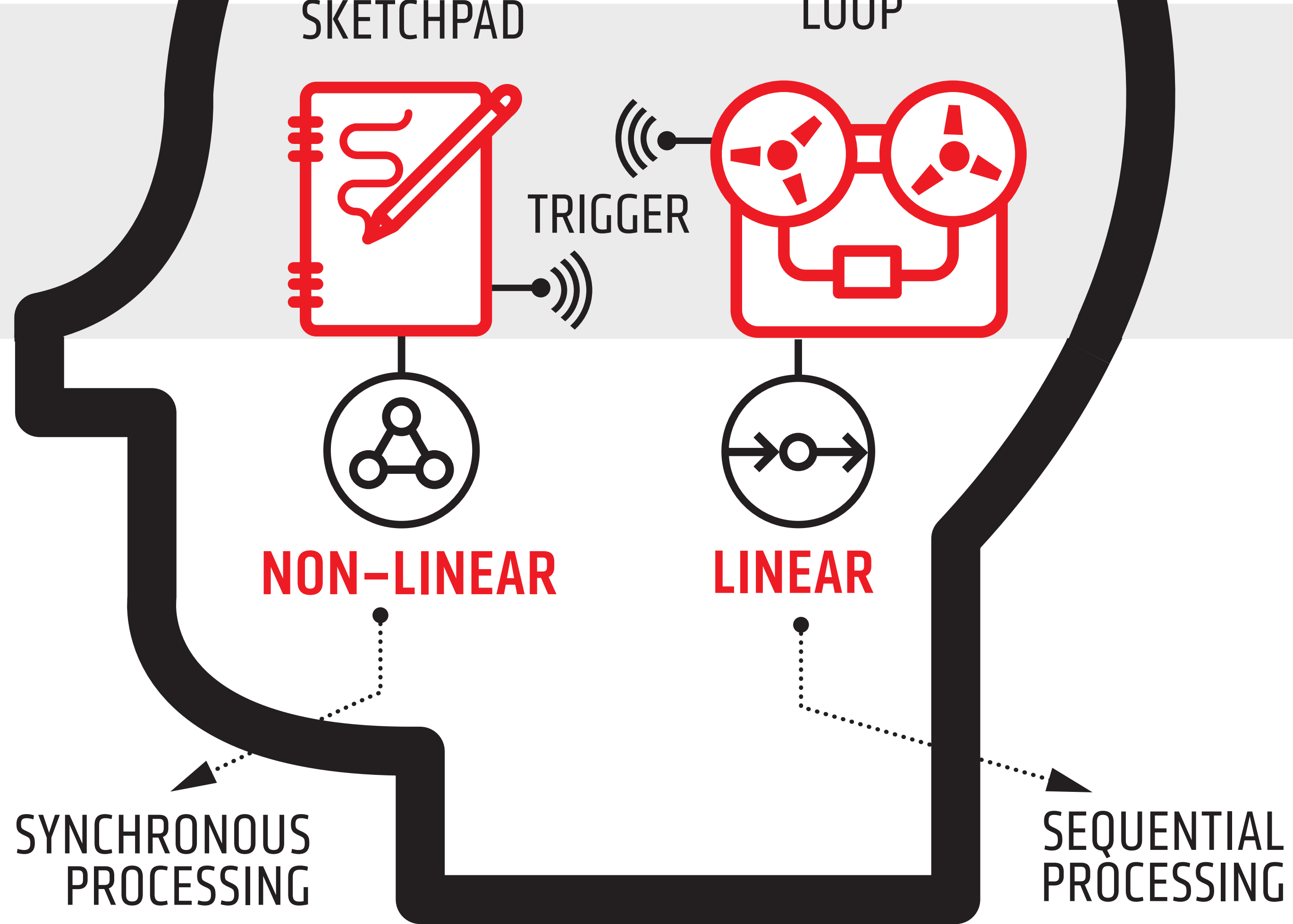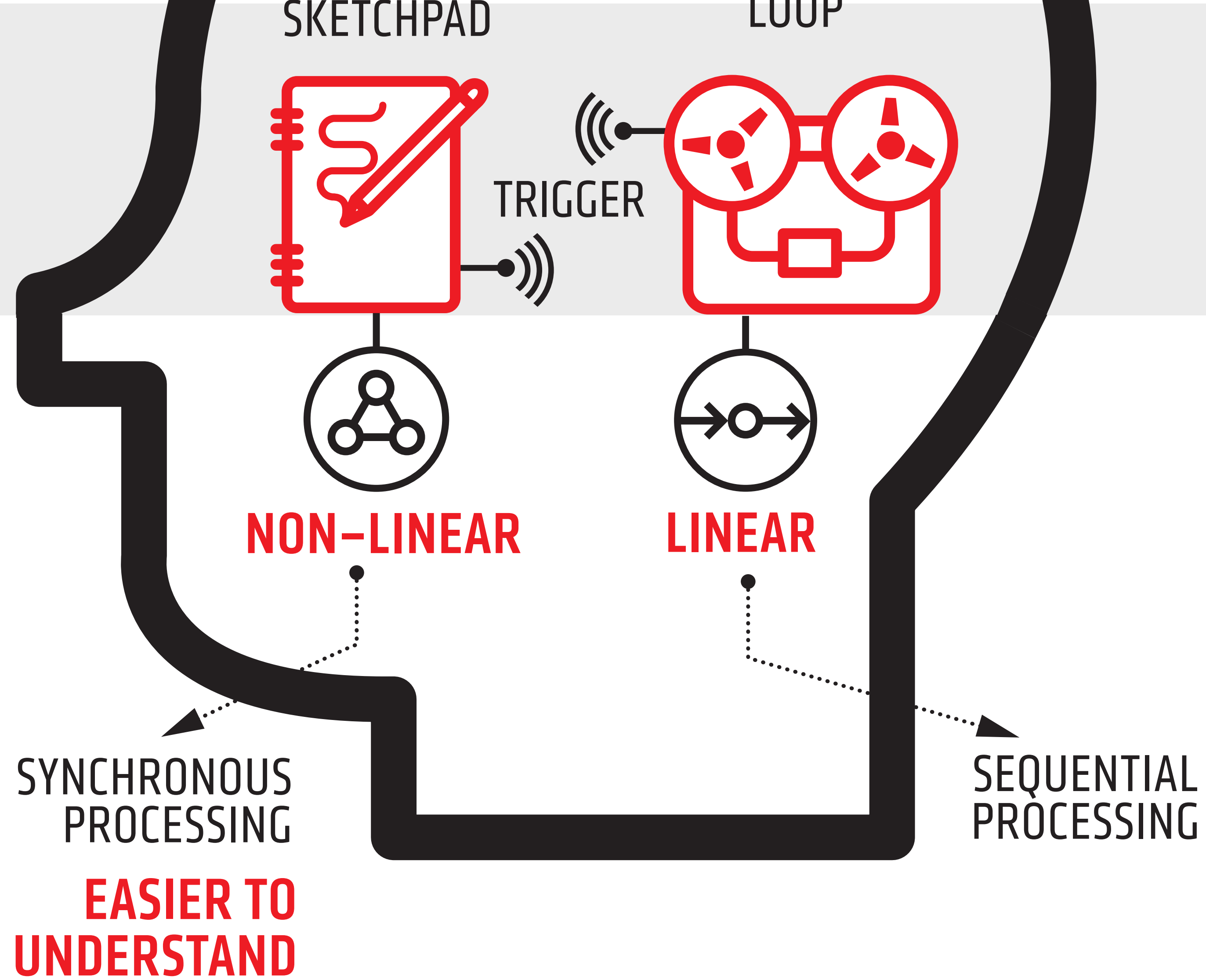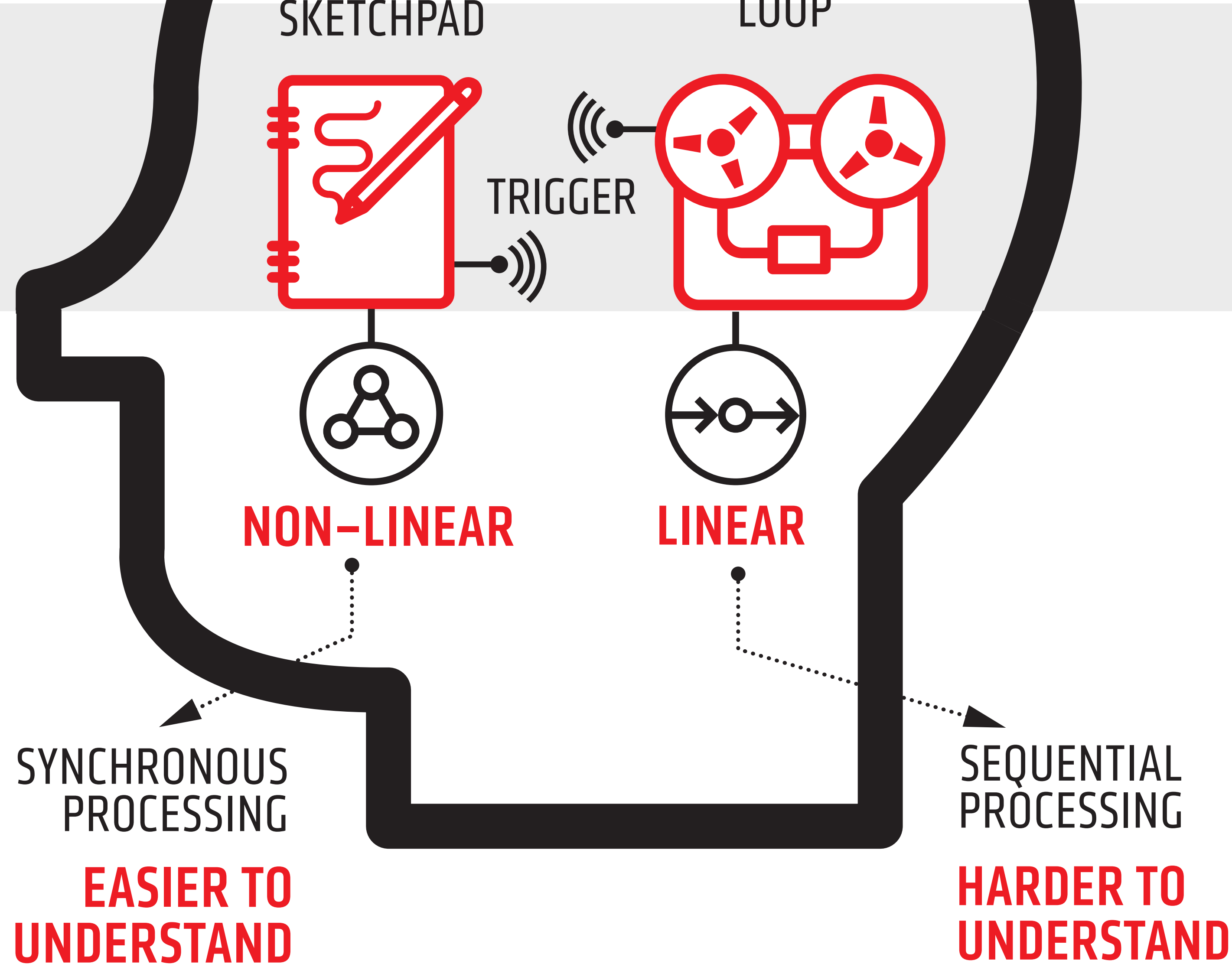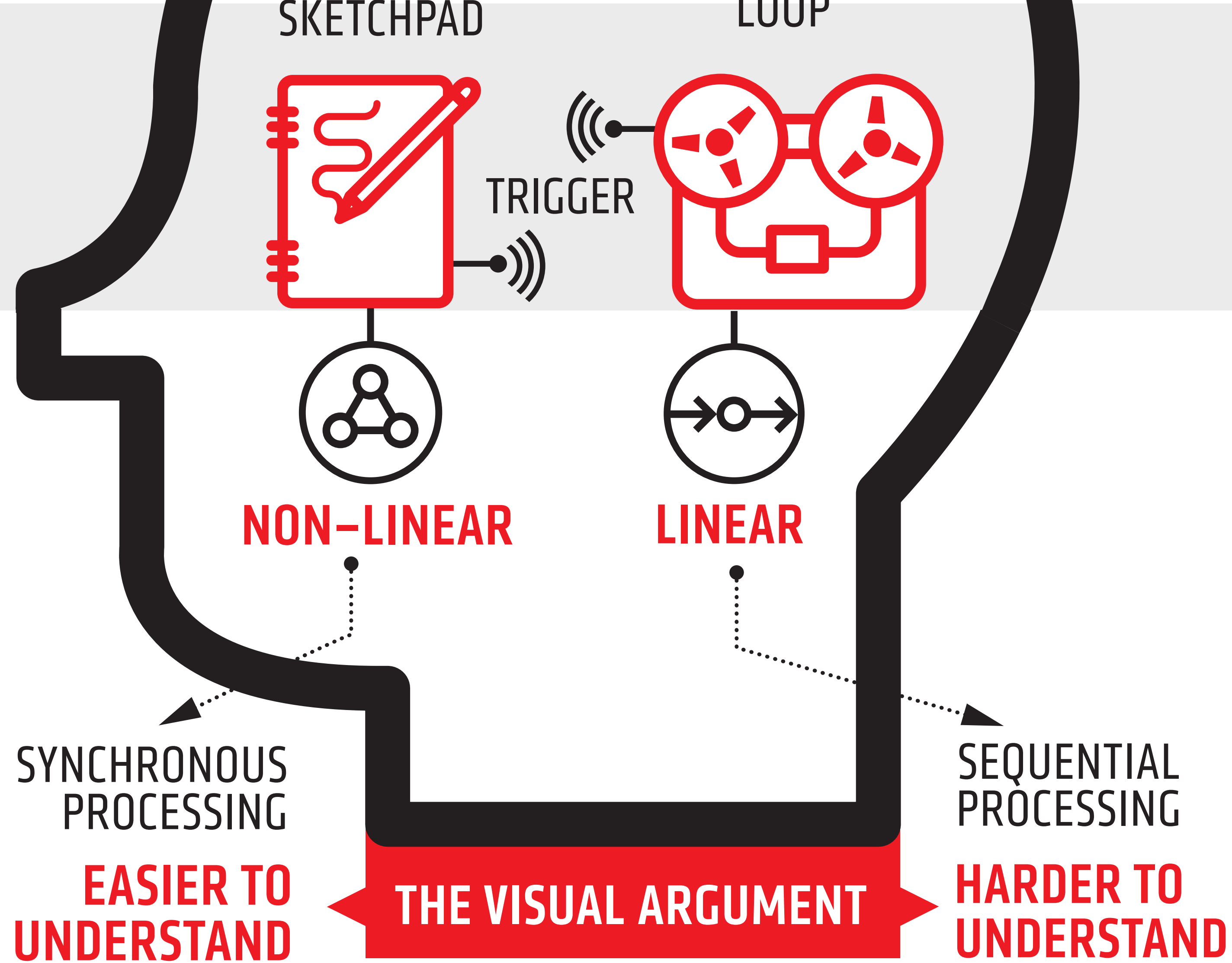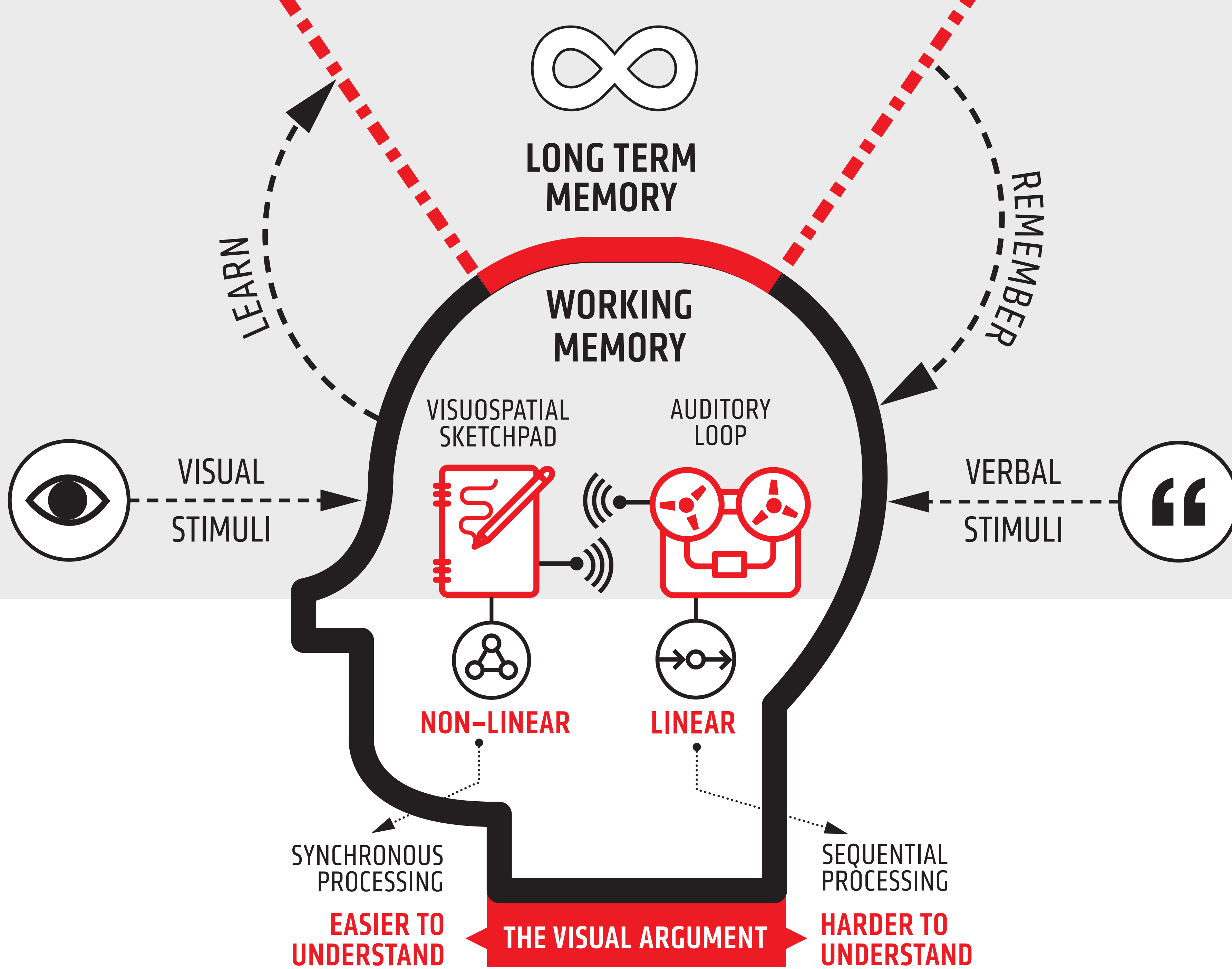
TRANSIENT INFORMATION EFFECT

> *Whenever a teacher orally explains something to a class or a pupil...the information presented is transient.*
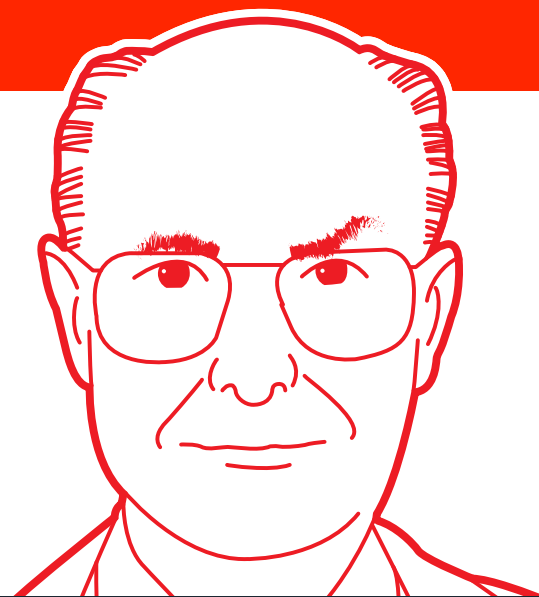
COGNITIVE LOAD THEORY,
SWELLER, AYRES & KALYUGA
2011, SPRINGER
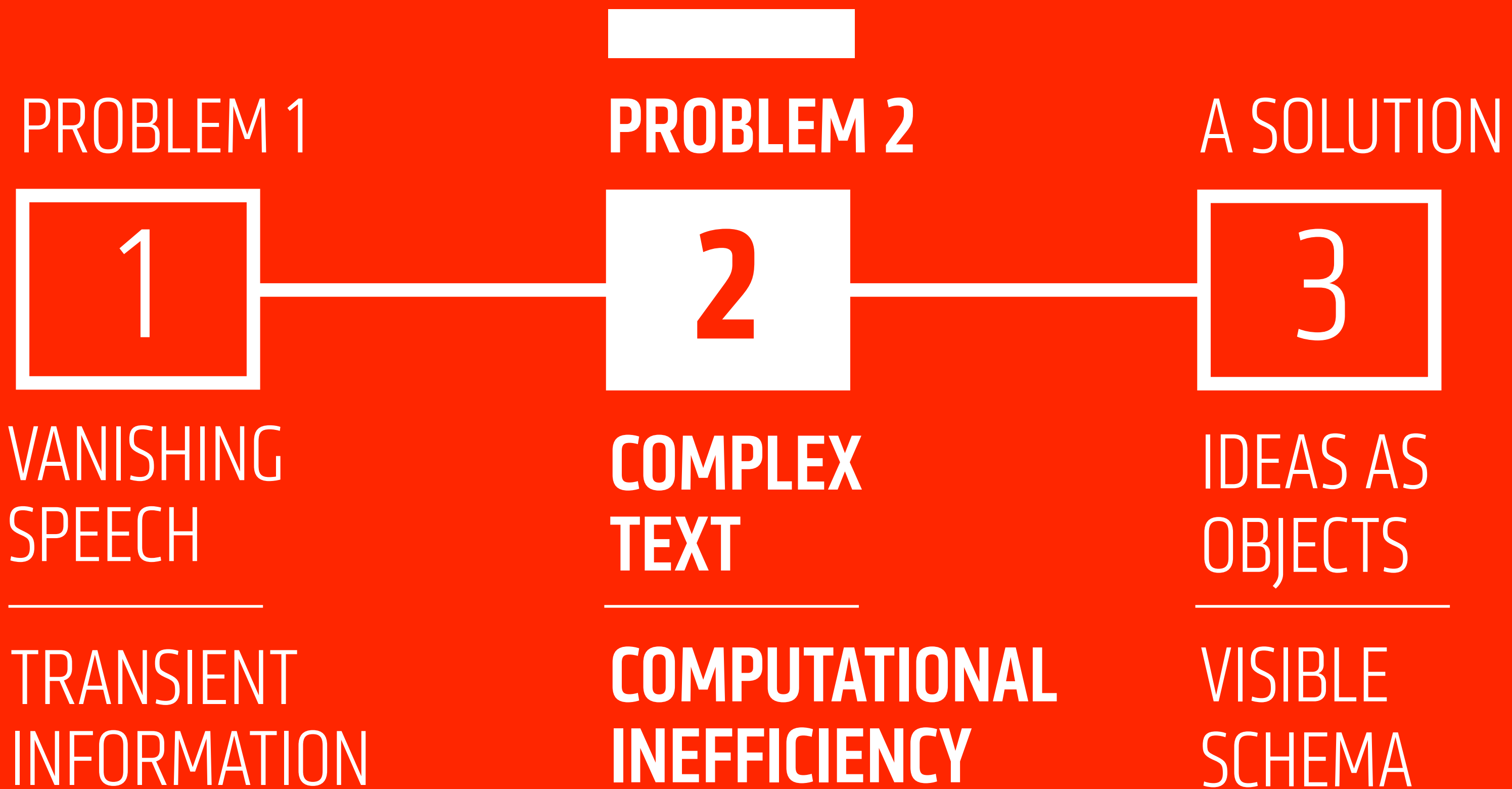
JOHN SWELLER

OLI
CAV

THE SEQUENCE

PROBLEM 1

1

VANISHING
SPEECH

———

TRANSIENT
INFORMATION

PROBLEM 2

2

**COMPLEX
TEXT**

———

**COMPUTATIONAL
INEFFICIENCY**

A SOLUTION

3

IDEAS AS
OBJECTS

———

VISIBLE
SCHEMA

THE MODERN EUROPE PROJECT

Jenny is head of the Humanities faculty. Fatima is the head of the History department. Tom, Joe and Sue work for Fatima. Harry is the head of the Geography department. Jo, Chaz and Tarnia report to Harry. Sue, Jo, Chaz and Harry are working together on the joint Modern Europe Project.

OLI
CAV

THE MODERN EUROPE PROJECT

Jenny is head of the Humanities faculty. Fatima is the head of the History department. Tom, Joe and Sue work for Fatima. Harry is the head of the Geography department. Jo, Chaz and Tarnia report to Harry. Sue, Jo, Chaz and Harry are working together on the joint Modern Europe Project.

OLI CAV

Who is the highest ranking person on the Modern Europe Project?

Which department has the most people on the Modern Europe project?

Which people are not involved with the Modern Europe project?

Head of Humanities

Jenny

History department

Geography department

Fatima

Harry

Tom

Joe

Sue

MODERN EUROPE PROJECT

Jo

Chaz

Tania

OLI CAV
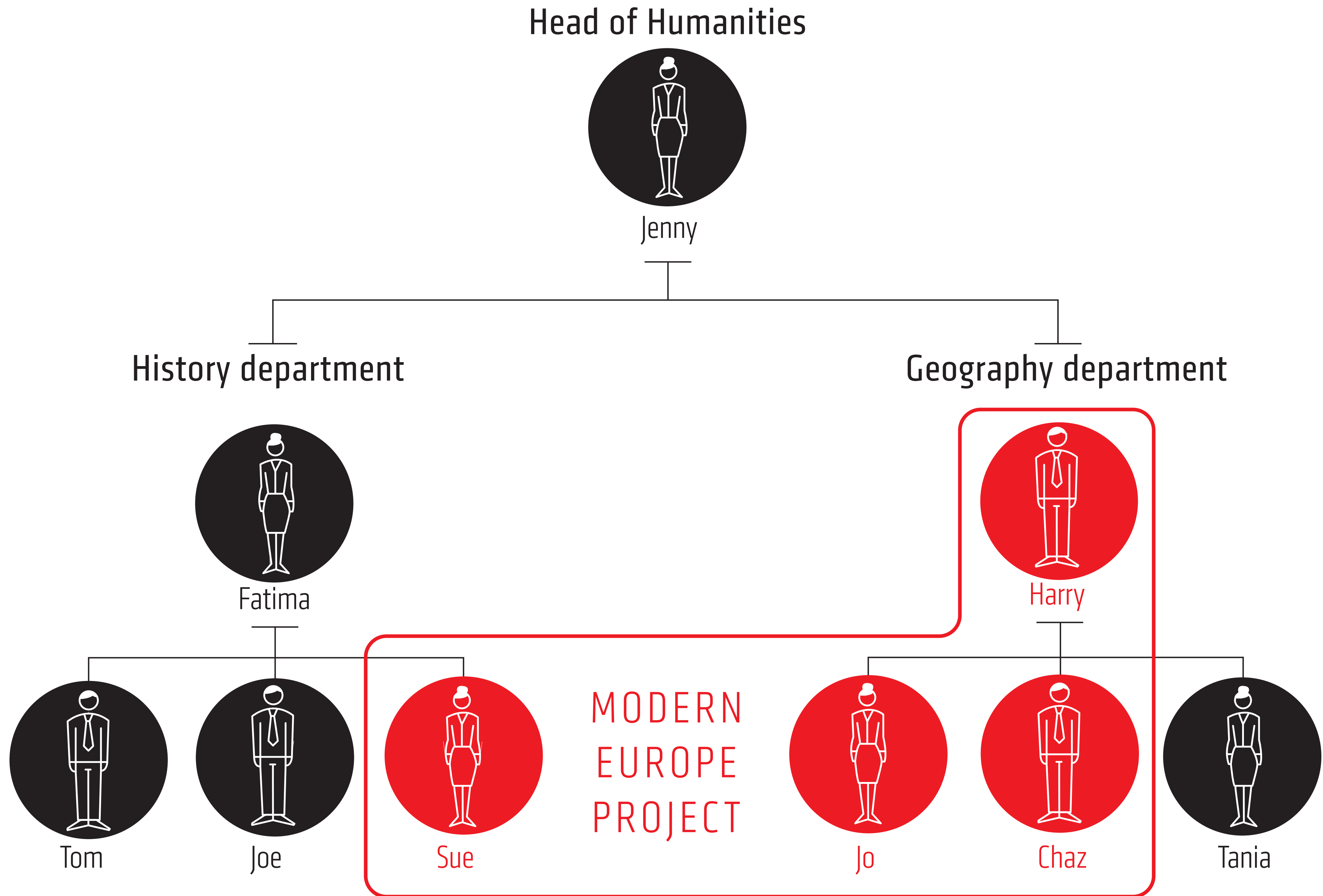
COMPUTATIONAL ADVANTAGE

> *The advantages of diagrams, in our view, are computational.*
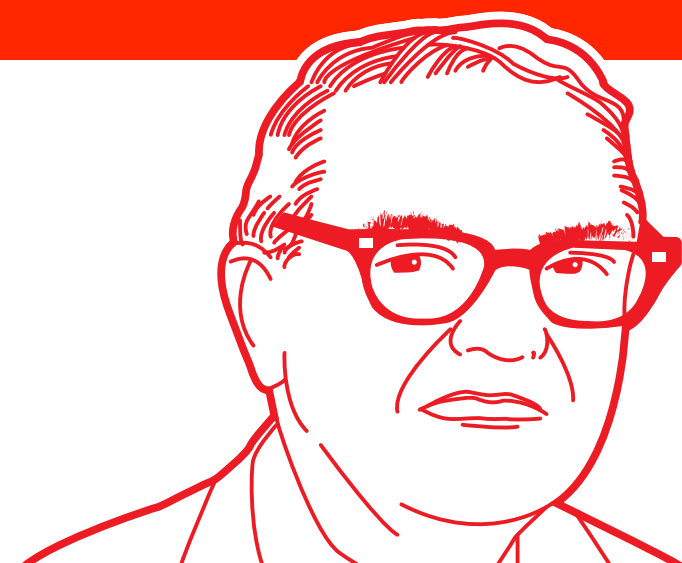
WHY A DIAGRAM IS (SOMETIMES) WORTH
TEN THOUSAND WORDS, COGNITIVE SCIENCE,
11, PP 65-99, SIMON & LARKIN (1987)

HERBERT SIMON

OLI CAV

SCHEMA AREN'T LINEAR
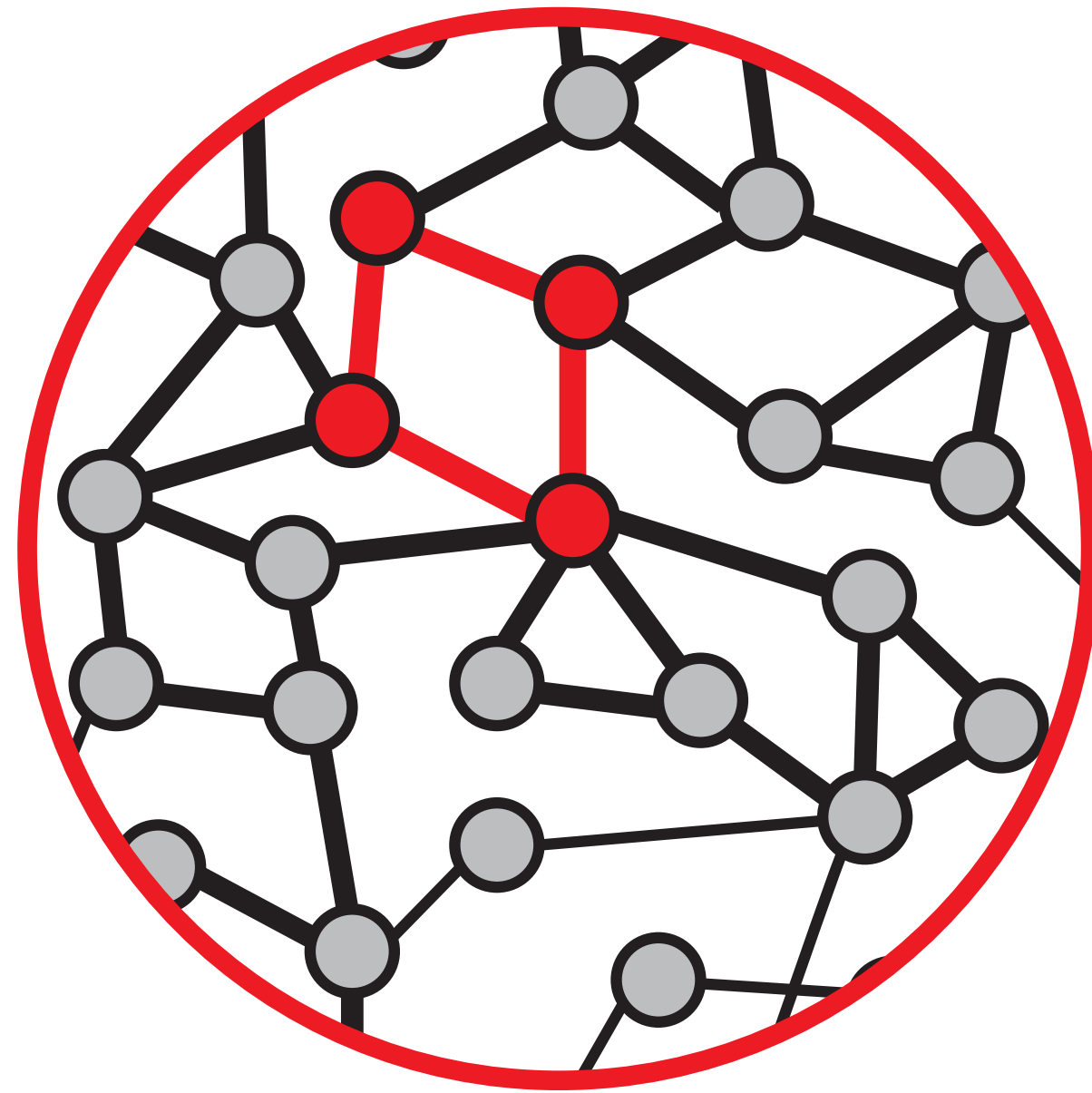
EFRAT FURST, 2018
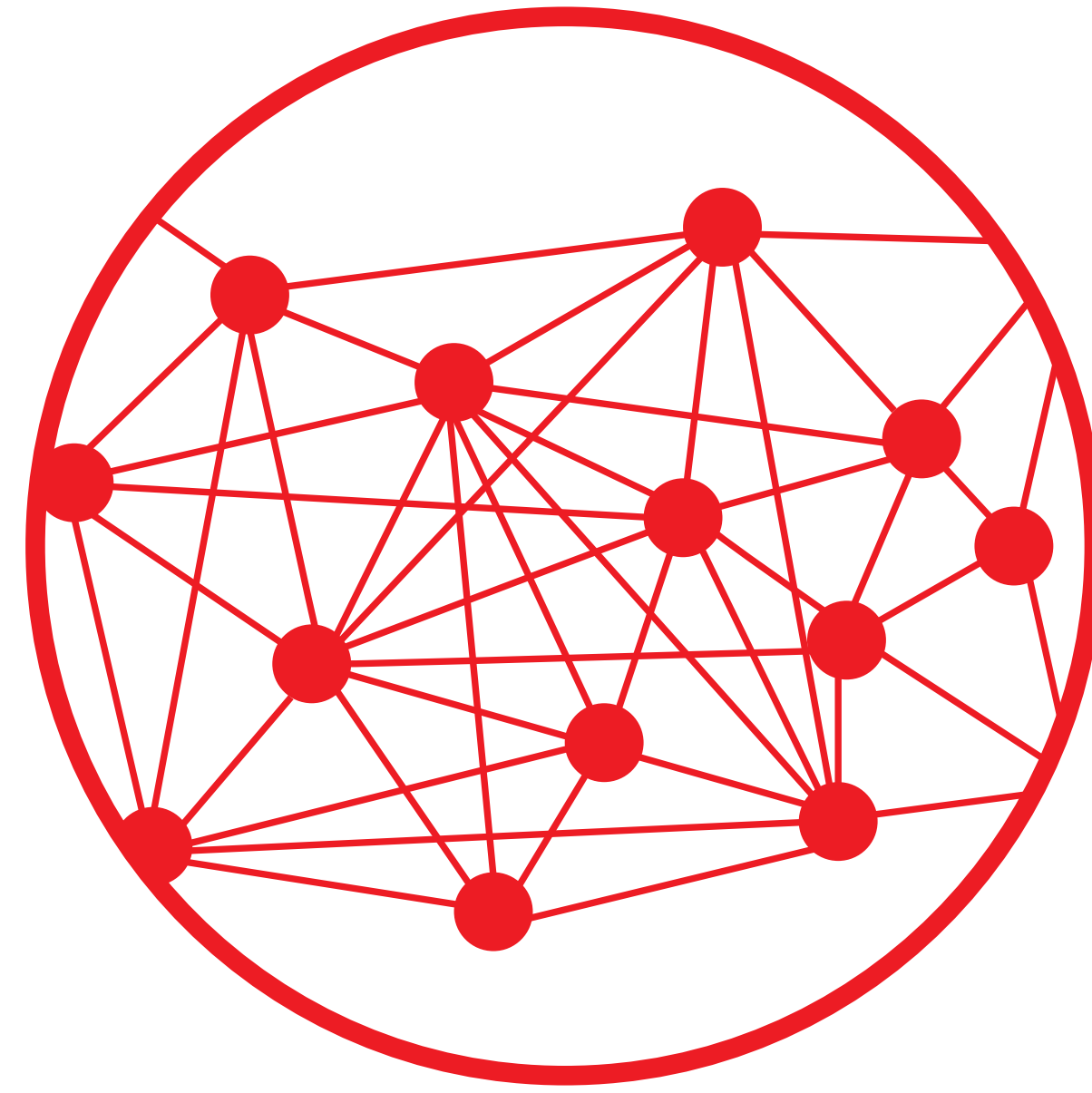
DAVID DIDAU, 2018
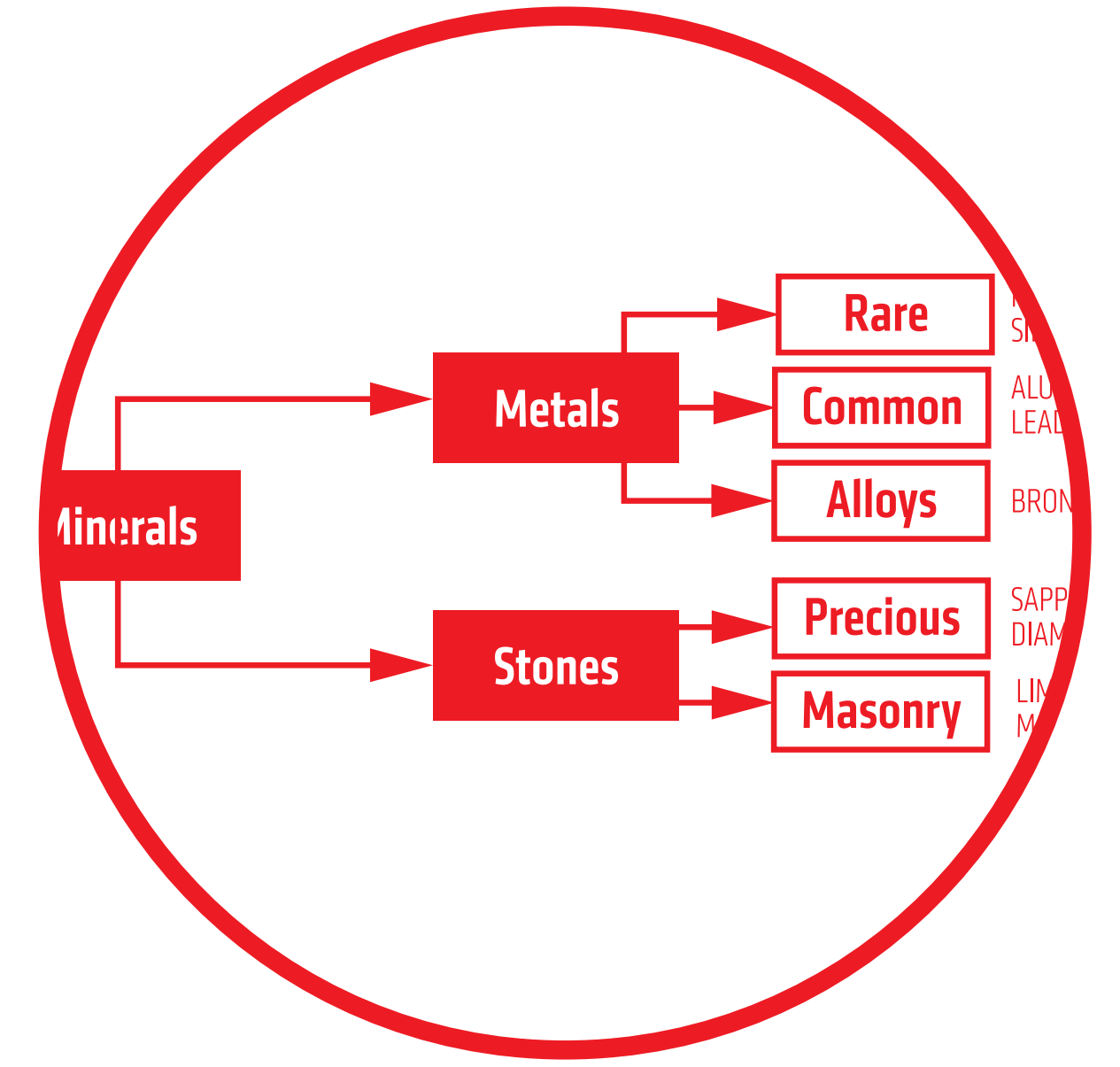
BOWER et al, 1969
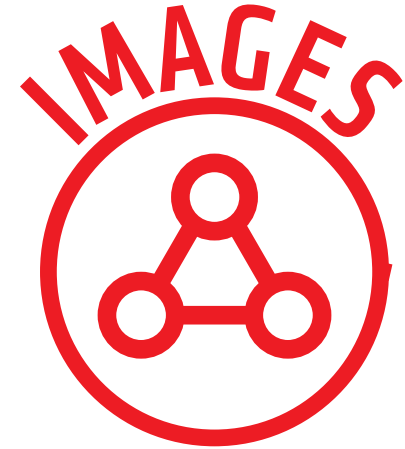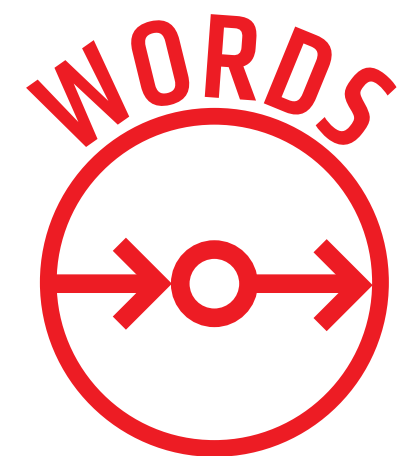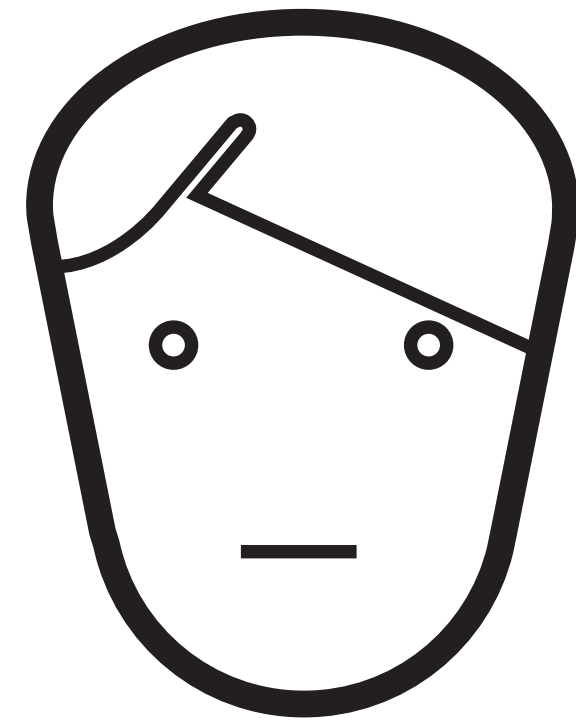
OLI CAV

TRANSFORMING THE STRUCTURE OF INFORMATION

IMAGES

SYNCHRONOUS PROCESSING

WORDS

SEQUENTIAL PROCESSING

OLI CAV

TRANSFORMING THE STRUCTURE OF INFORMATION

IMAGES

SYNCHRONOUS
PROCESSING

WORDS

SEQUENTIAL
PROCESSING

TRANSFORM TO UNDERSTAND

OLI
CAV

TRANSFORMING THE STRUCTURE OF INFORMATION

IMAGES

SYNCHRONOUS
PROCESSING

TRANSFORM TO UNDERSTAND

TRANSFORM TO EXPRESS

WORDS

SEQUENTIAL
PROCESSING

OLI
CAV

THE SEQUENCE

PROBLEM 1

1

TRANSIENT
INFORMATION
EFFECT

PROBLEM 2

2

COMPUTATIONAL
INEFFICIENCY

A SOLUTION

3

**VISIBLE
SCHEMA**

PITFALLS

4

CHOICE &
EXECUTION
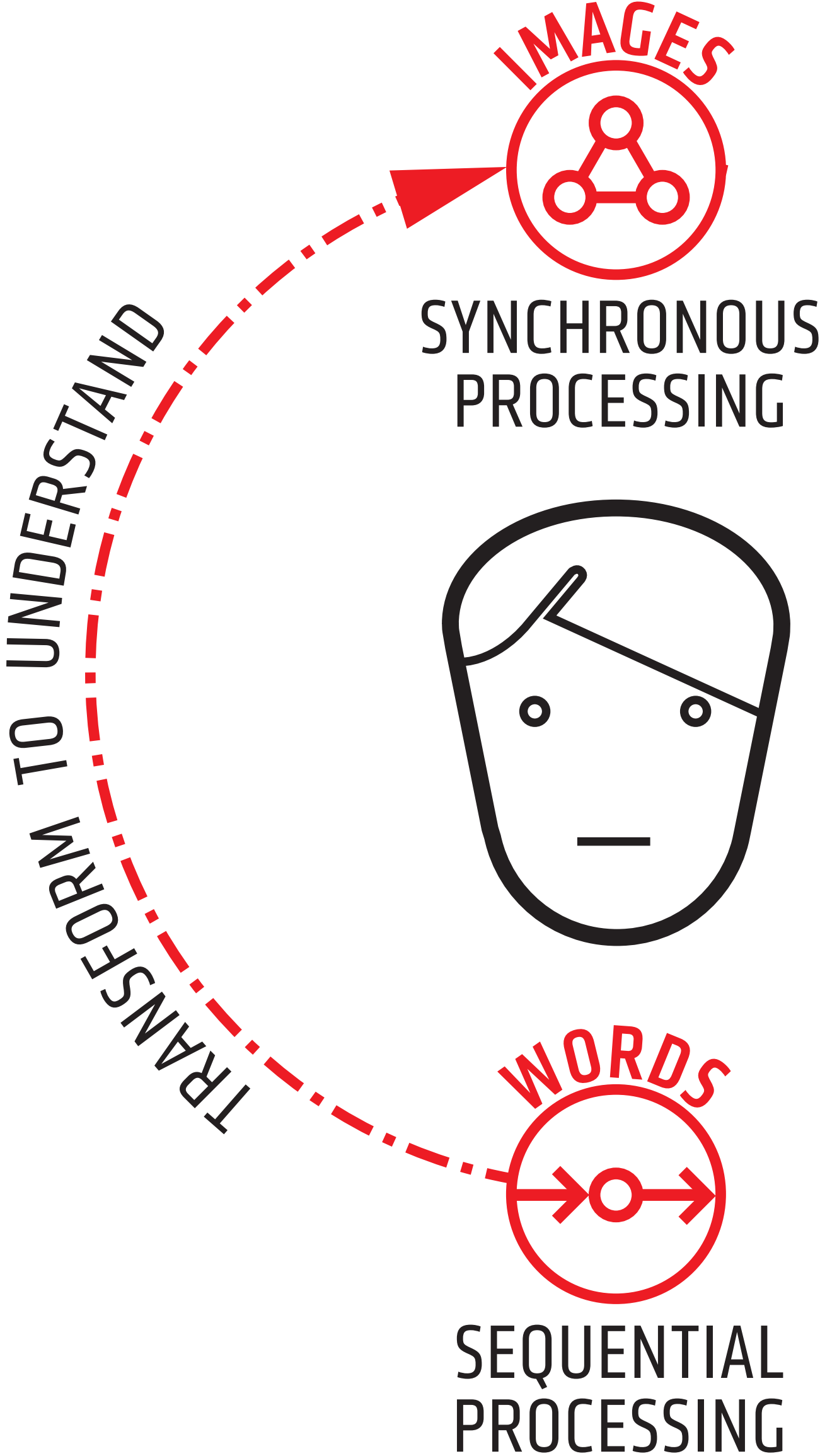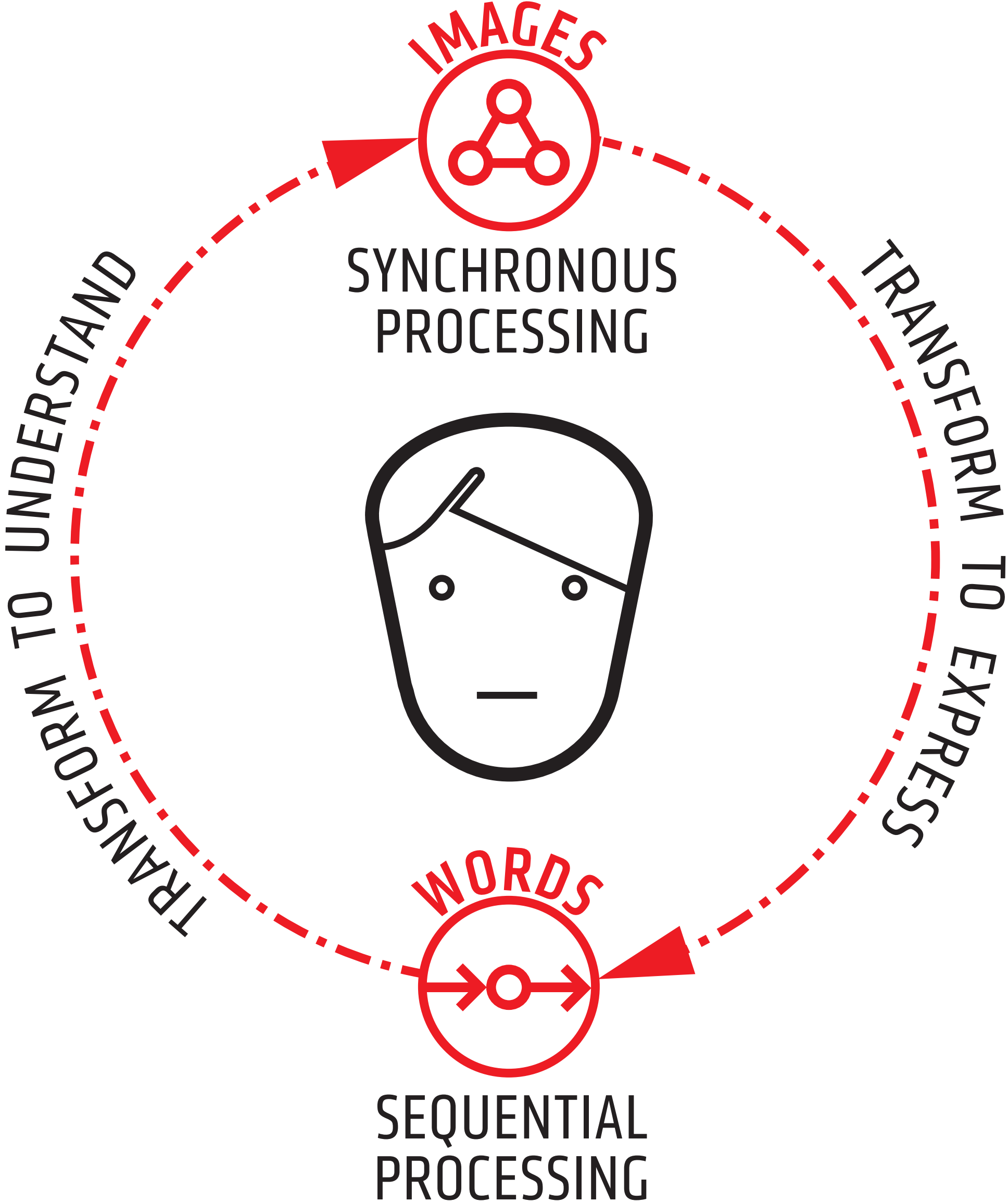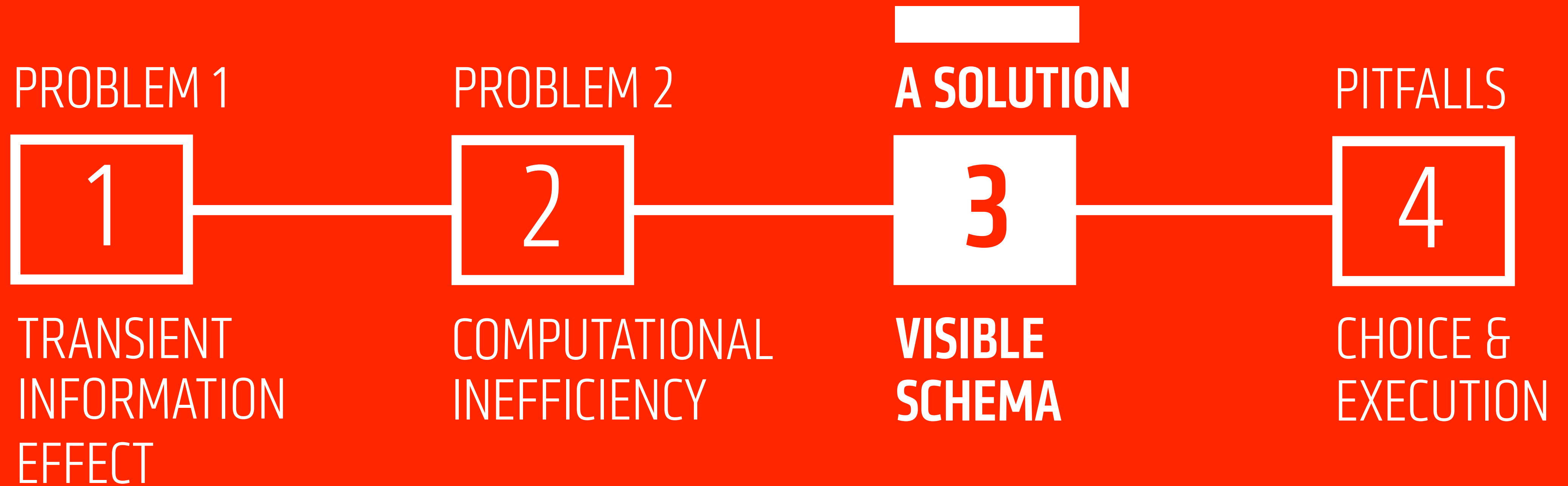
RECOUNT AND RECALL

Sequence teacher modelling, drawing, peer explanation and tracing to create a powerful way to strengthen student understanding and retrieval.

OLI CAV

TEACHER
CONSTRUCT & EXPLAIN YOUR VISUAL

Draw a graphic organiser a branch at a time. As you construct it, explain your thinking regarding its connections and hierarchy.

When the branch — or part of the diagram — is complete, direct your students to copy it into their books.
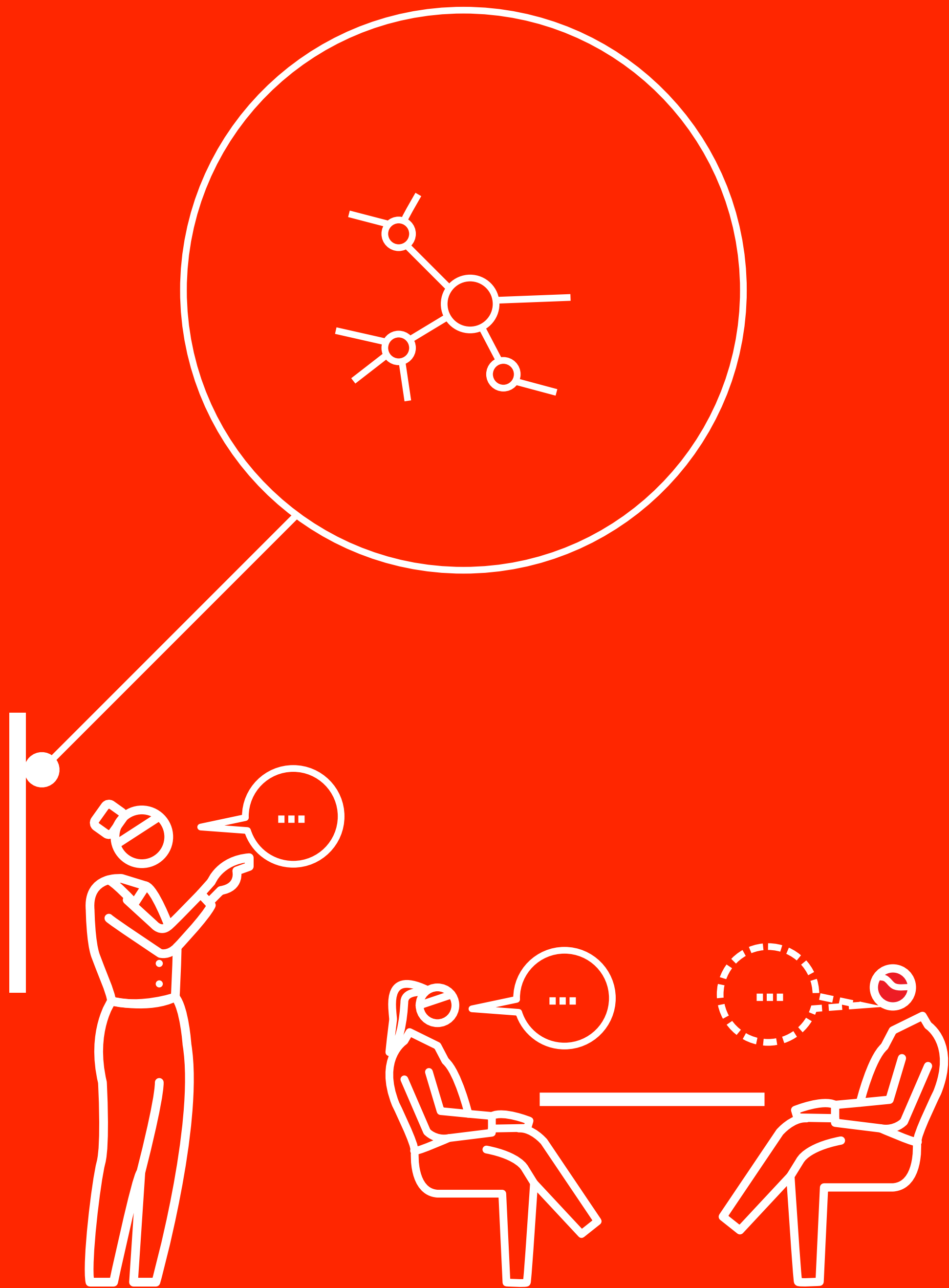
STUDENTS
EXPLAIN THE BRANCH

Direct students to work in pairs, one explaining the branch to the other. Establish a rule of each keyword requiring, say, two sentences to be explained in full.

Pairs swap roles with the explainer now becoming the listener, and vice versa.
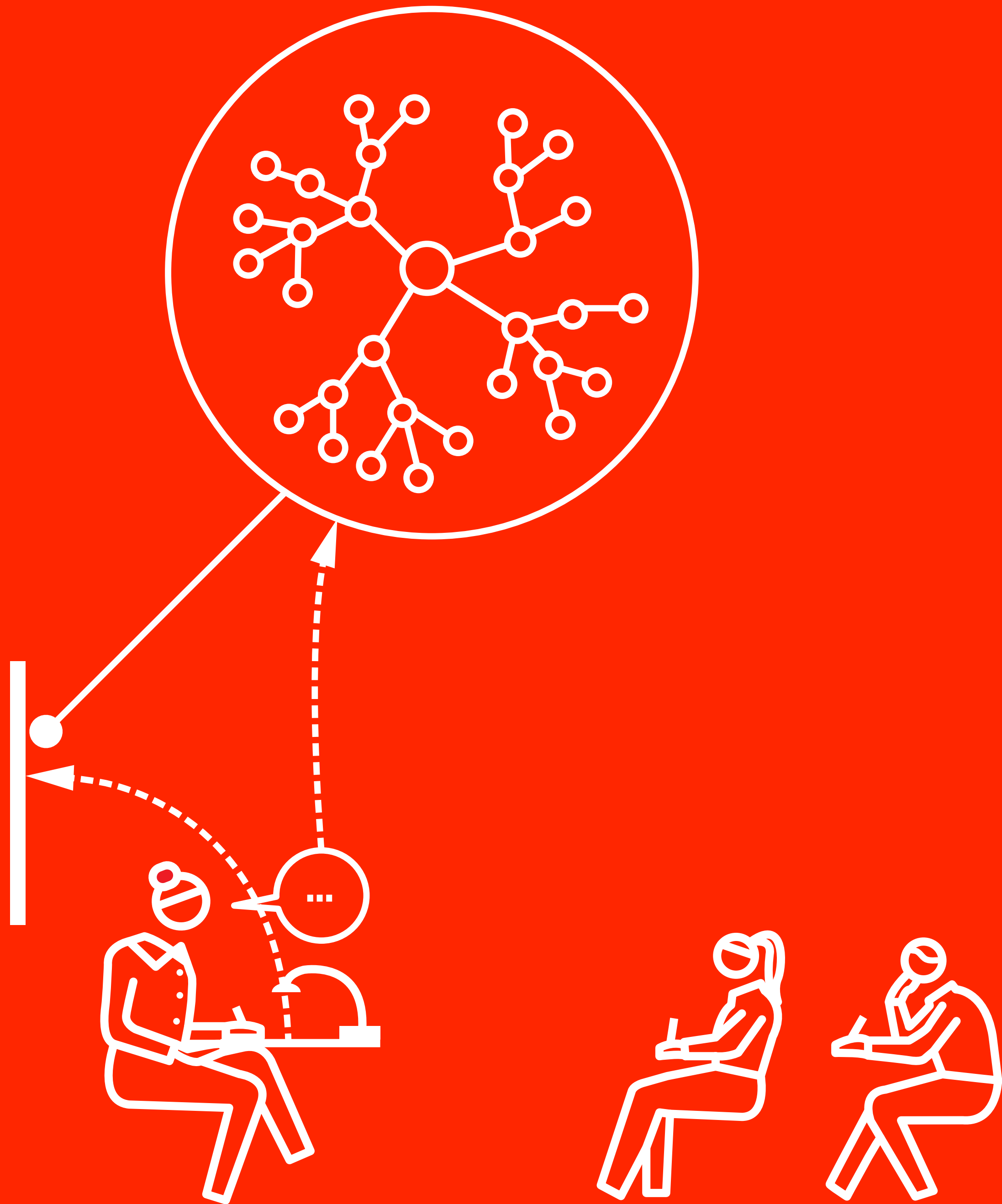
TEACHER
COMPLETE THE PROCESS

Continue to explain the topic at hand, its underlying structure and how it is arranged spatially in the diagram.

Repeat the process where the students copy the branch and explain it back to their peer, until the whole diagram is complete in this way.

4

RECOUNT THE WHOLE VISUAL

In pairs, students recount the whole visual to their partner. When complete, the pairs switch roles.

Direct the explaining student to trace the line with their index finger as they elaborate on the key words. Explain that this will greatly help them later when they retrieve — by drawing — the whole diagram.

5
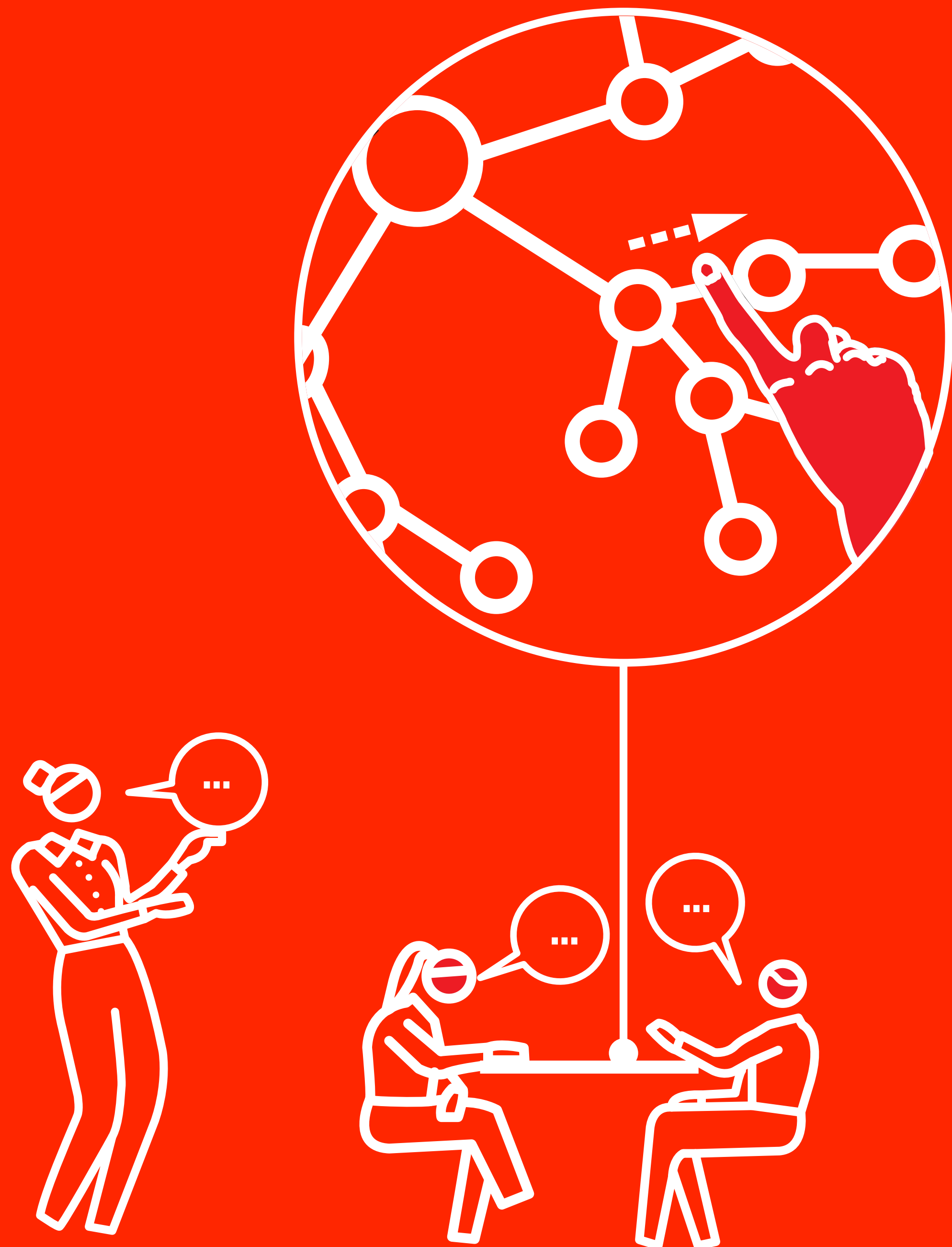
REDRAW THE WHOLE VISUAL FROM MEMORY

Ensure all copies of the map are put away, not in view. Direct the students to work alone and redraw the visual completely from memory.

Suggest they replay their explanations quietly in their minds, and trace out the shapes of the branches. This will trigger their memories and they will rapidly pick up their pencils and redraw the map accurately.

CORSICA

Timeline (top)

PREHISTORY — GREECE — ROME — GENOA — FRANCE

- GREECE: CORSIS
- ROME: ADMINISTRATION
- GENOA: CHESTNUT TREES
- FRANCE: EMPIRE, SECURITY, JOBS

OCCUPATION

BANDITS

- THE START: BANDITS OF HONOUR
- LITERATURE: MAUPASSANT
- THE END: 1930s ROUND-UP | 10,000 POLICE | THE LAST BANDITS

GEOGRAPHY

- POPULATION: 250,000 / 2,500,000
- MOUNTAINS: 66%
- FOREST: 20%
- BEACHES: 200

MONTE CINTO △
AJACCIO ⊙

HERO

PASCAL PAOLI

1755 — 1769 — 1793 — 1807
- 1755 CONSTITUTION
- 1769 EXILED
- 1793 SOVEREIGNTY!
- 1807 LONDON

OLI CAV

CORSICA

OLI CAV

CORSICA

OCCUPATION

CORSICA

PREHISTORY

CORSICA

PREHISTORY

CORSIS

GREECE

OCCUPATION

CORSICA

PREHISTORY

CORSIS

GREECE

ADMINISTRATION

ROME

OCCUPATION

CORSICA

PREHISTORY

CORSIS

GREECE

ADMINISTRATION

ROME

CHESTNUT TREES

GENOA

OCCUPATION

CORSICA

PREHISTORY

CORSIS

GREECE

ADMINISTRATION

ROME

CHESTNUT TREES

GENOA

EMPIRE

SECURITY

JOBS

FRANCE

OCCUPATION

CORSICA
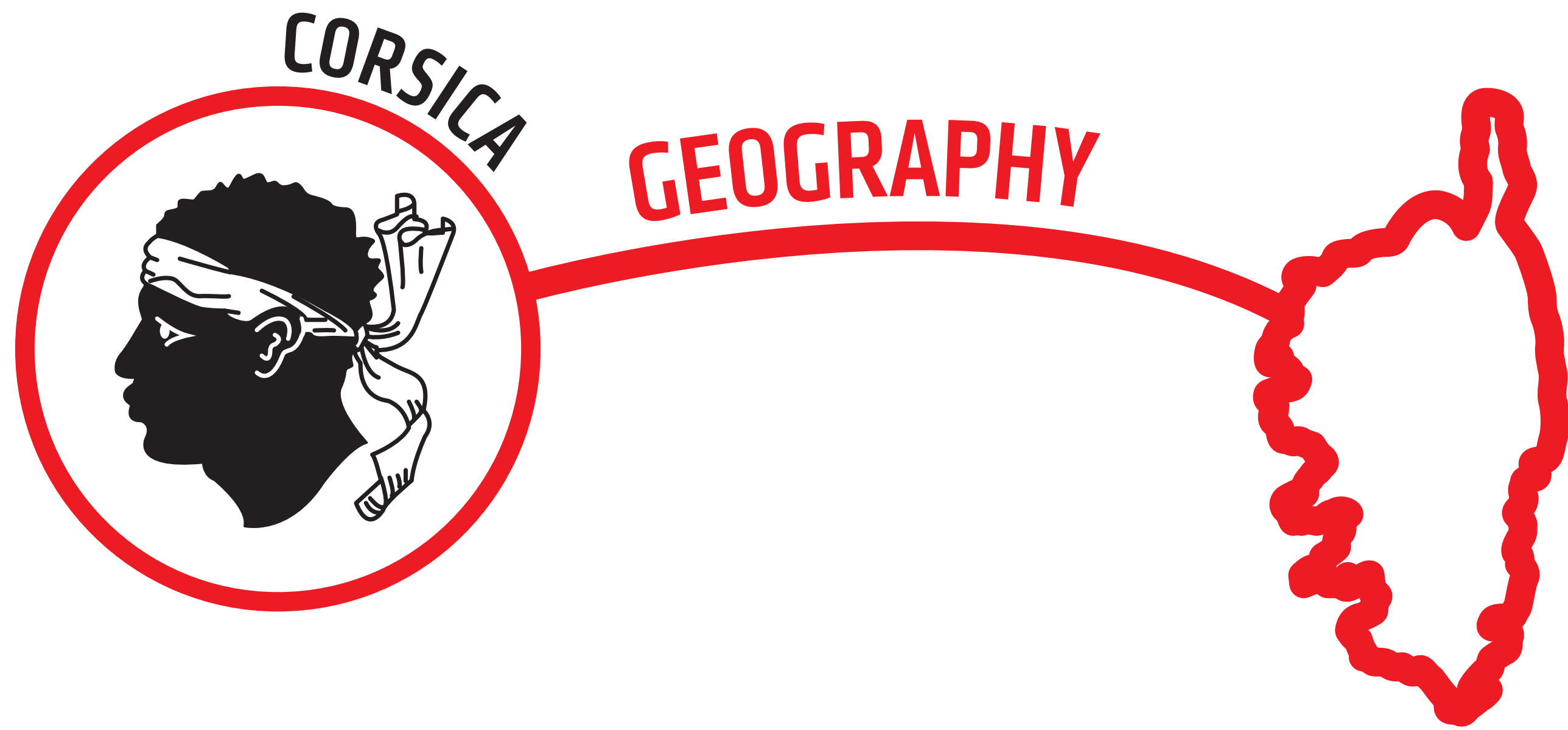
CORSICA

CORSICA

GEOGRAPHY

CORSICA

GEOGRAPHY

AJACCIO
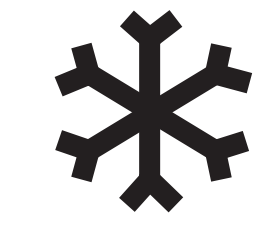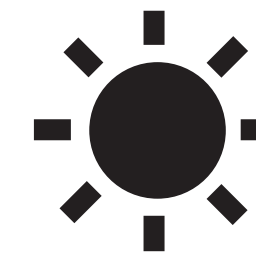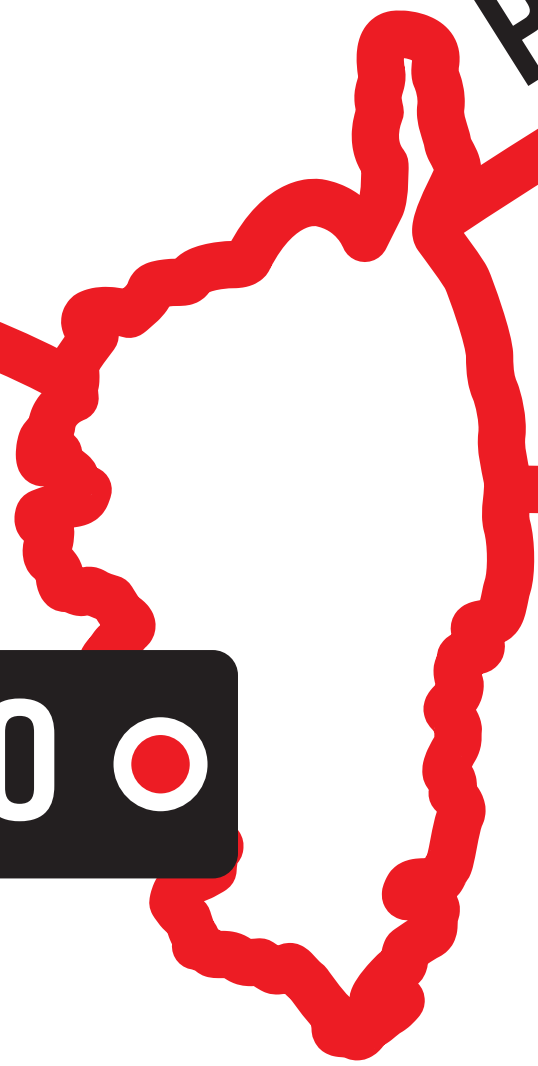
CORSICA

GEOGRAPHY

POPULATION

AJACCIO

❄ 250,000

☀ 2,500,000

CORSICA

GEOGRAPHY

POPULATION

MOUNTAINS

AJACCIO

250,000

2,500,000

66%

CORSICA

GEOGRAPHY

POPULATION

MONTE CINTO ▲

AJACCIO ●

MOUNTAINS

❄ 250,000

☀ 2,500,000

66%

CORSICA

GEOGRAPHY

MONTE CINTO △

AJACCIO ●

POPULATION

❄ 250,000
☀ 2,500,000

MOUNTAINS

66%

FOREST

20%

CORSICA

GEOGRAPHY

MONTE CINTO △

AJACCIO ◉

POPULATION

❄ 250,000

☀ 2,500,000

MOUNTAINS 66%

FOREST 20%

BEACHES 200
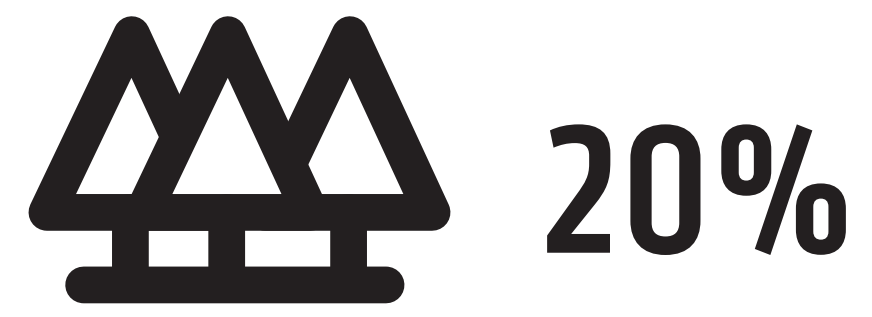
CORSICA
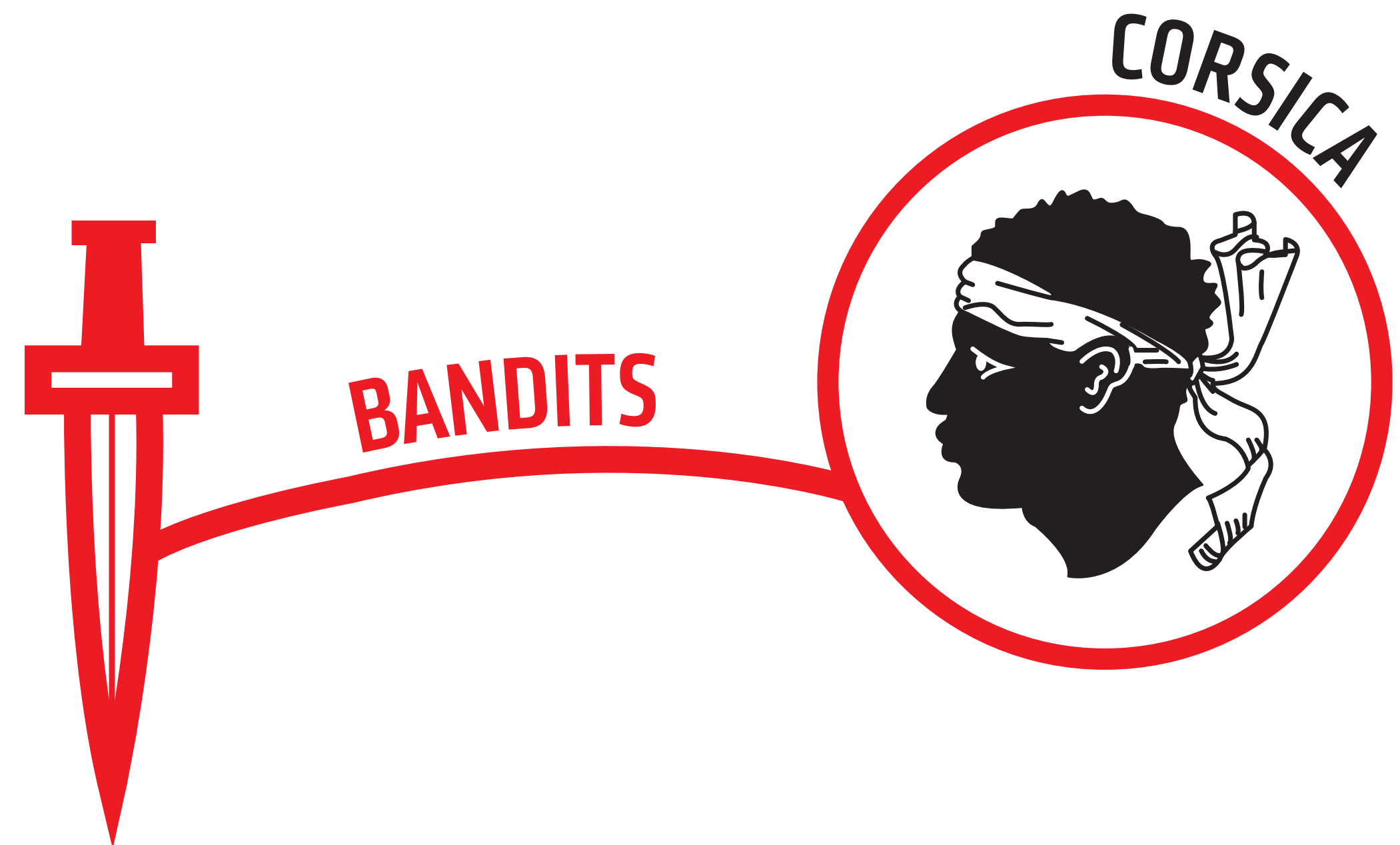
BANDITS

CORSICA

BANDITS OF
HONOUR

THE START

BANDITS

CORSICA

BANDITS OF HONOUR

THE START

MAUPASSANT

LITERATURE

BANDITS

CORSICA

BANDITS OF HONOUR

THE START

CORSICA

LITERATURE

MAUPASSANT

BANDITS

THE END

1930s ROUND-UP | 10,000 POLICE | THE LAST BANDITS

CORSICA

CORSICA

HERO

PASCAL PAOLI

CORSICA

HERO

PASCAL PAOLI

1755

CONSTITUTION

CORSICA

HERO

PASCAL PAOLI

1755   1769

CONSTITUTION   EXILED

CORSICA

HERO

PASCAL PAOLI

1755	1769	1793
CONSTITUTION	EXILED	SOVEREIGNITY!

CORSICA

HERO

PASCAL PAOLI

1755	1769	1793	1807
CONSTITUTION	EXILED	SOVEREIGNITY!	LONDON

CORSICA

Timeline (top)

PREHISTORY — GREECE — ROME — GENOA — FRANCE

- GREECE: CORSIS
- ROME: ADMINISTRATION
- GENOA: CHESTNUT TREES
- FRANCE: SECURITY, EMPIRE, JOBS

OCCUPATION

BANDITS

- THE START — BANDITS OF HONOUR
- LITERATURE — MAUPASSANT
- THE END — 1930s ROUND-UP | 10,000 POLICE | THE LAST BANDITS

GEOGRAPHY

- POPULATION: 250,000 / 2,500,000
- MOUNTAINS: 66%
- FOREST: 20%
- BEACHES: 200
- MONTE CINTO ▲
- AJACCIO ⦿

HERO

PASCAL PAOLI

1755 — CONSTITUTION
1769 — EXILED
1793 — SOVEREIGNTY!
1807 — LONDON

OLI CAV
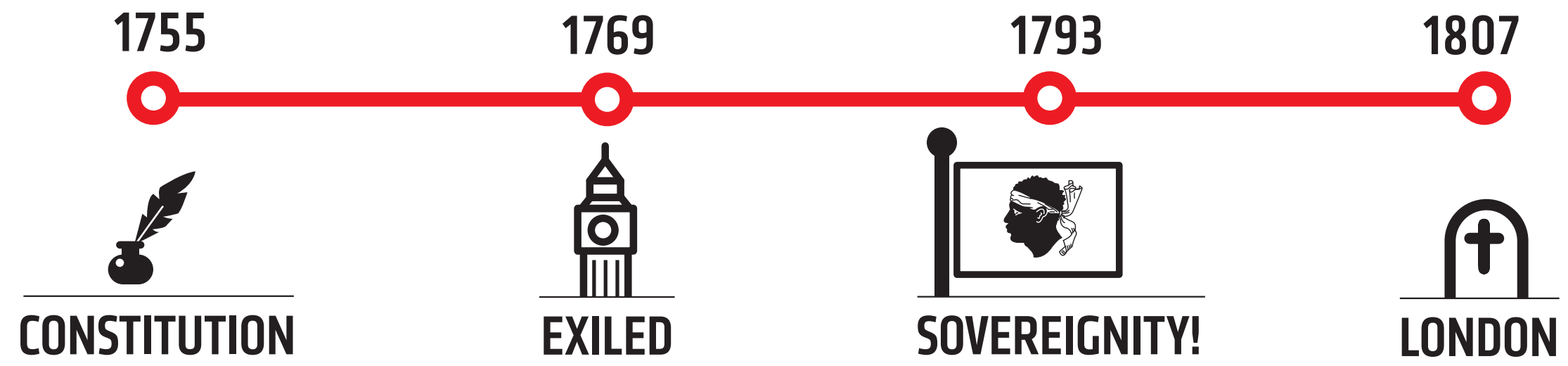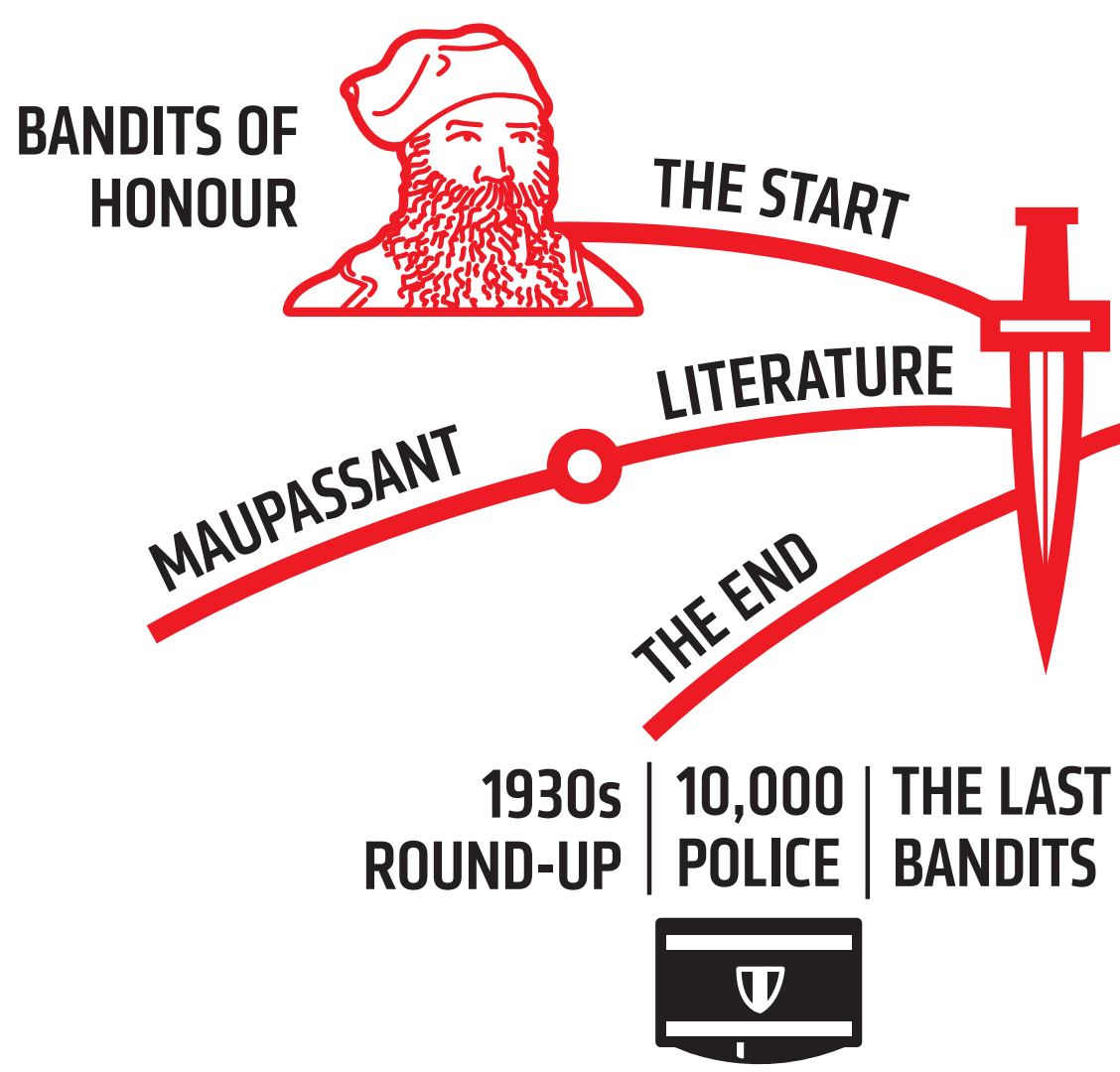
RECOUNT & REDRAW — IT WORKS

Steve Richardson
Judgemeadow Community School

RECOUNT & REDRAW — IT WORKS

15 years ago:
233 items on his map,
231 retrieved.

He's been using this
technique with his
students ever since.

Steve Richardson
Judgemeadow Community School

THE COGNITIVE ELEMENTS

THE COGNITIVE ELEMENTS

ADVANCE ORGANISER

7

OLI CAV

ADVANCE
ORGANISER

7

TEACHER
MODELLING

OLI
CAV

THE COGNITIVE ELEMENTS

ADVANCE ORGANISER

7

TEACHER MODELLING

DRAWING

OLI CAV

THE COGNITIVE ELEMENTS

7

ADVANCE ORGANISER

TEACHER MODELLING

DRAWING

PEER EXPLAINATION

OLI CAV

THE COGNITIVE ELEMENTS

ADVANCE ORGANISER

TEACHER MODELLING

DRAWING

PEER EXPLAINATION

INTERROGATIVE ELABORATION

7

OLI CAV

THE COGNITIVE ELEMENTS

ADVANCE
ORGANISER

TEACHER
MODELLING

TRACING

7

DRAWING

INTERROGATIVE
ELABORATION

PEER
EXPLAINATION

OLI
CAV

THE COGNITIVE ELEMENTS

RETRIEVAL PRACTICE

ADVANCE ORGANISER

TRACING

7

TEACHER MODELLING

INTERROGATIVE ELABORATION

DRAWING

PEER EXPLAINATION

OLI CAV

DRAWING & MEMORY

> *Drawing was more effective than copying something and rereading (verbatim), than verbally explaining something to yourself in your own words, or than writing something down in your own words (i.e., paraphrasing).*

AND THE WINNER IS...DRAWING
https://3starlearningexperiences.wordpress.com/2019/09/10/and-the-winner-is-drawing/
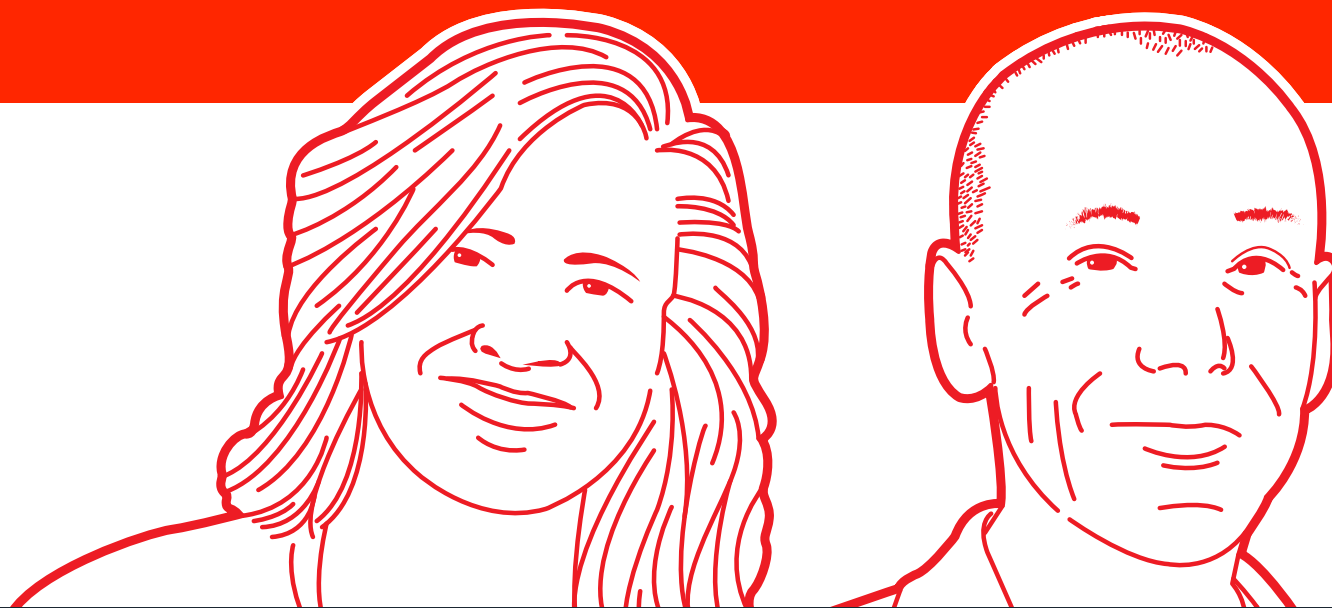
MIRJAM NEELAN   PAUL KIRSCHNER

OLI CAV

How generative drawing affects the learning process: An eye-tracking analysis

Johannes Hellenbrand[1] | Richard E. Mayer[2] | Maria Opfermann[3] | Annett Schmeck[4] | Detlev Leutner[1]

[1] Department of Instructional Psychology, University of Duisburg-Essen, Essen, Germany

[2] Department of Psychological and Brain Sciences, University of California, Santa Barbara

[3] Department of Educational Science, Ruhr-University Bochum, Bochum, Germany

[4] Stiftung Mercator Essen, Essen, Germany

Correspondence
Johannes Hellenbrand, Department of Instructional Psychology, Faculty of Educational Sciences, University of Duisburg-Essen, Universitätsstr. 2, 45141 Essen, Germany.
Email: johannes.hellenbrand@uni-due.de

Summary

Generative drawing is a learning strategy in which students draw illustrations while reading a text to depict the content of the lesson. In two experiments, students were asked to generate drawings as they read a scientific text or read the same text on influenza with author-provided illustrations (Experiment 1) or to generate drawings or write verbal summaries as they read (Experiment 2). An examination of students' eye movements during learning showed that students who engaged in generative drawing displayed more rereadings of words, higher proportion of fixations on the important words, higher rate of transitions between words and workspace, and higher proportion of transitions between important words and workspace than students given a text lesson with author-generated illustrations (Experiment 1) or students who were asked to write a summary (Experiment 2). These findings contribute new evidence to guide theories for explaining how generative drawing affects learning processes.

OLI
CAV

GENERATIVE DRAWING EFFECTS

Students who engage in generative drawing displayed more rereadings of words, higher proportion of fixations on the important words, higher rate of transitions between words and workspace, and higher proportion of transitions between important words and workspace than students given a text lesson with author-generated illustrations.

OLI
CAV

TRACING AND MEMORY

Students who traced angle relationships with their index finger when studying paper-based worked examples... showed higher learning outcomes than students who only studied the examples.
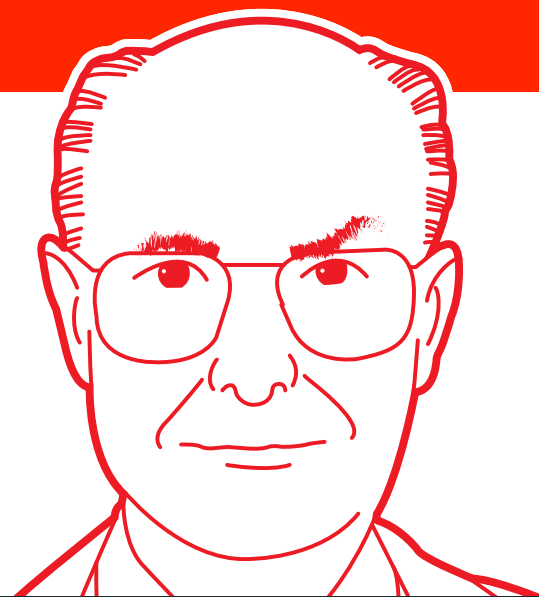
COGNITIVE ARCHITECTURE AND INSTRUCTIONAL DESIGN: 20 YEARS LATER, SWELLER, MERRIENBOER & PAAS 2019,

JOHN SWELLER

OLI CAV

PROBLEM 1

1

TRANSIENT
INFORMATION
EFFECT

PROBLEM 2

2

COMPUTATIONAL
INEFFICIENCY

A SOLUTION

3

VISIBLE
SCHEMA

PITFALLS

4
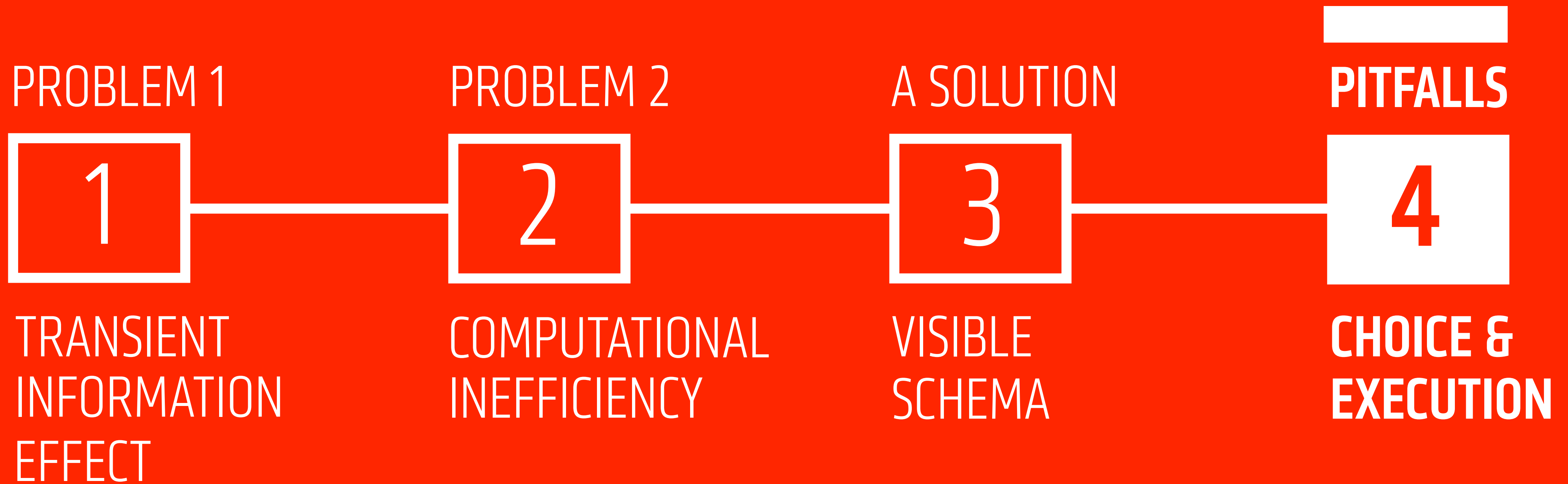
**CHOICE &
EXECUTION**

PITFALLS

1 INCORRECT CHOICE OF VISUAL

2 POOR EXECUTION

RUTH COLVIN CLARK   CHOPETA LYONS

GRAPHICS FOR LEARNING, 2004

OLI CAV

ORGANISING KNOWLEDGE

Poorly organised knowledge cannot readily be remembered or used. But students don't know how to organise their knowledge effectively.

APPLYING COGNITIVE SCIENCE TO EDUCATION, 2008

FREDERICK REIF

OLI CAV

ORGANISING KNOWLEDGE

REIF. F., 2008, APPLYING COGNITIVE SCIENCE TO EDUCATION, MIT PRESS

RANDOM

REIF. F., 2008, APPLYING COGNITIVE SCIENCE TO EDUCATION, MIT PRESS

RANDOM

LIST

REIF. F., 2008, APPLYING COGNITIVE SCIENCE TO EDUCATION, MIT PRESS
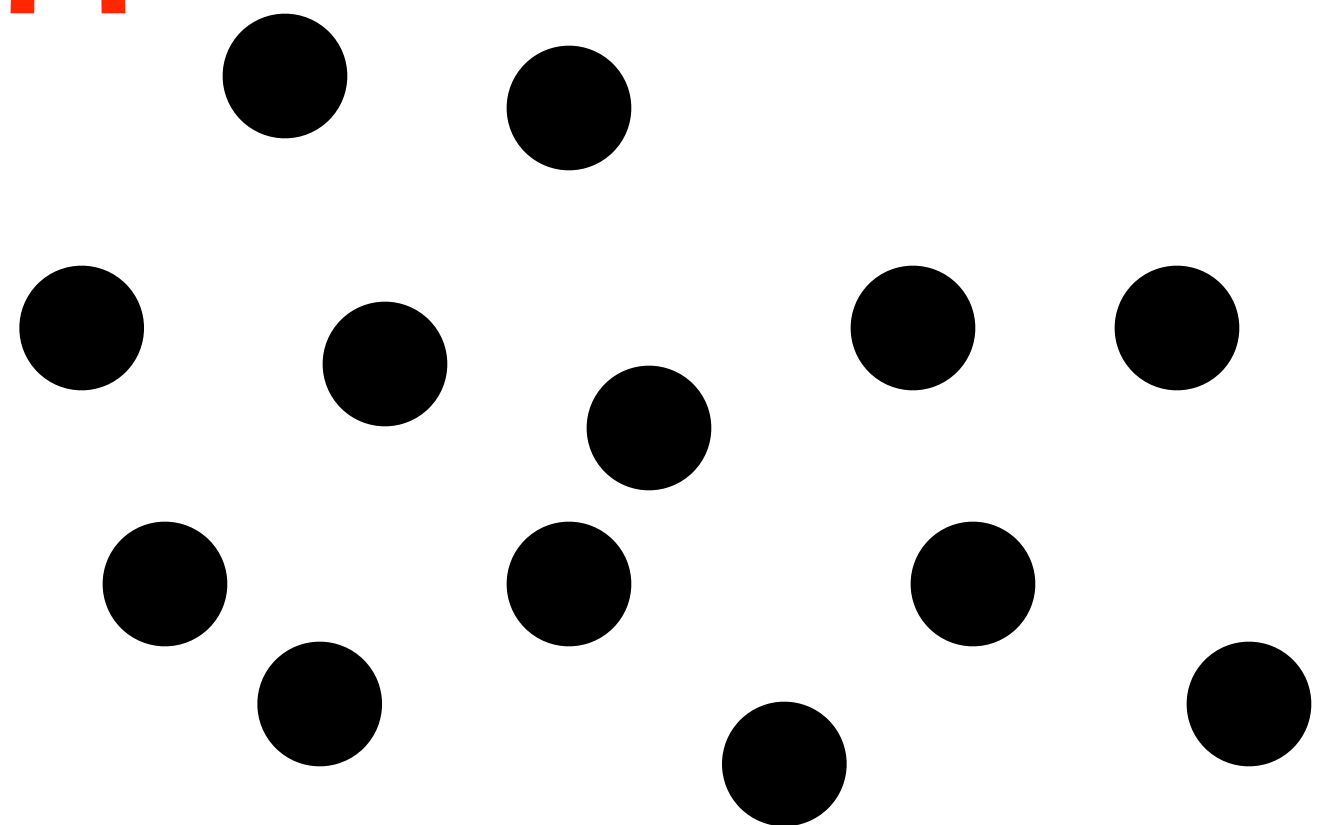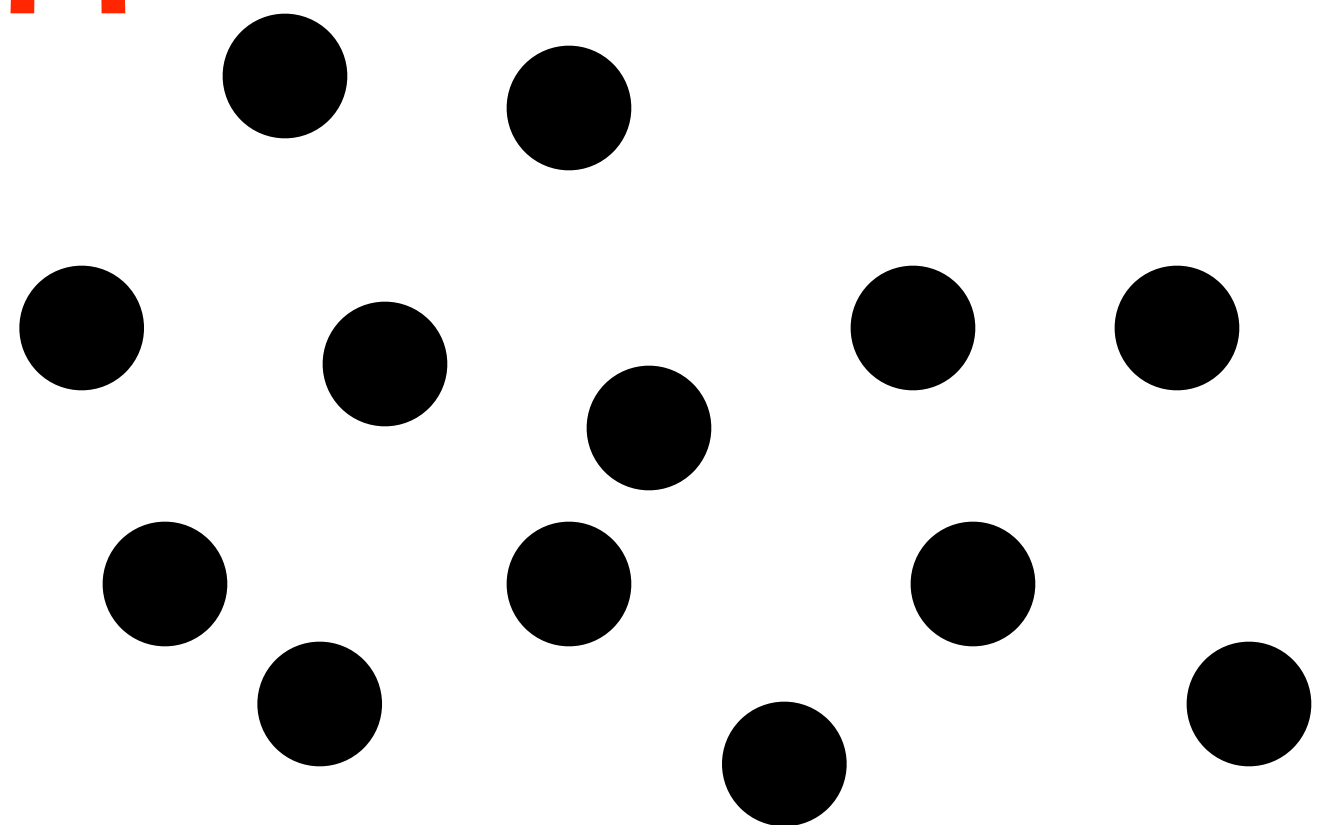
ORGANISING KNOWLEDGE

NETWORK

RANDOM

LIST

REIF. F., 2008, APPLYING COGNITIVE SCIENCE TO EDUCATION, MIT PRESS

ORGANISING KNOWLEDGE

HIERARCHY

NETWORK

RANDOM

LIST

REIF. F., 2008, APPLYING COGNITIVE SCIENCE TO EDUCATION, MIT PRESS
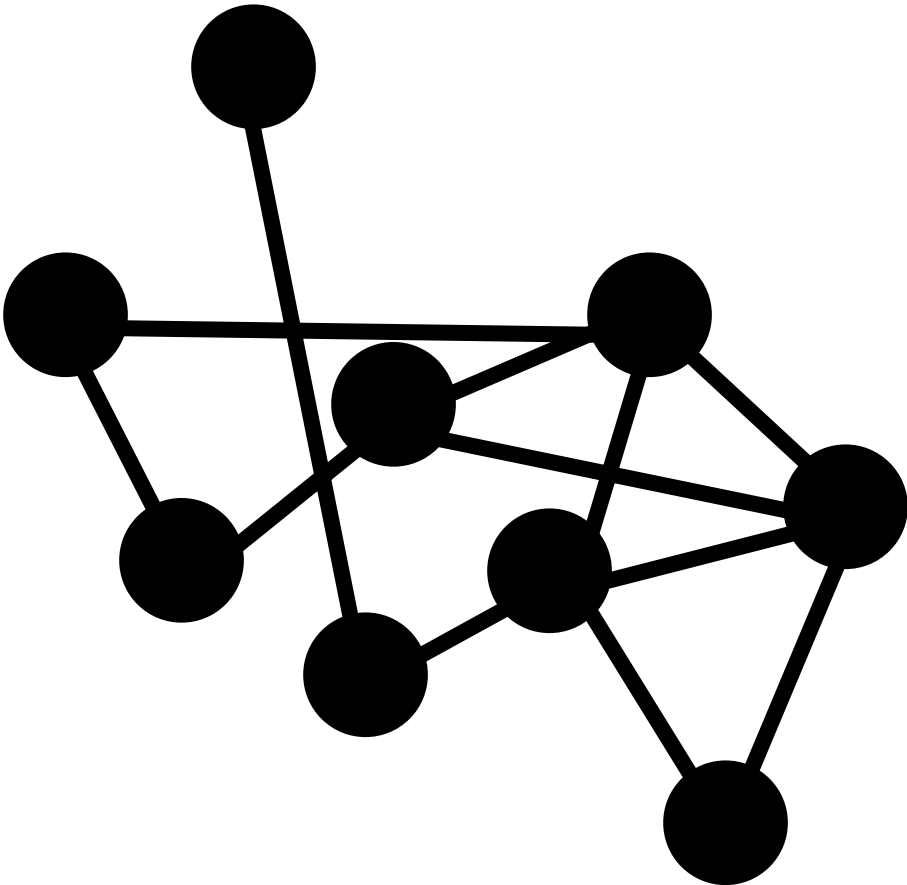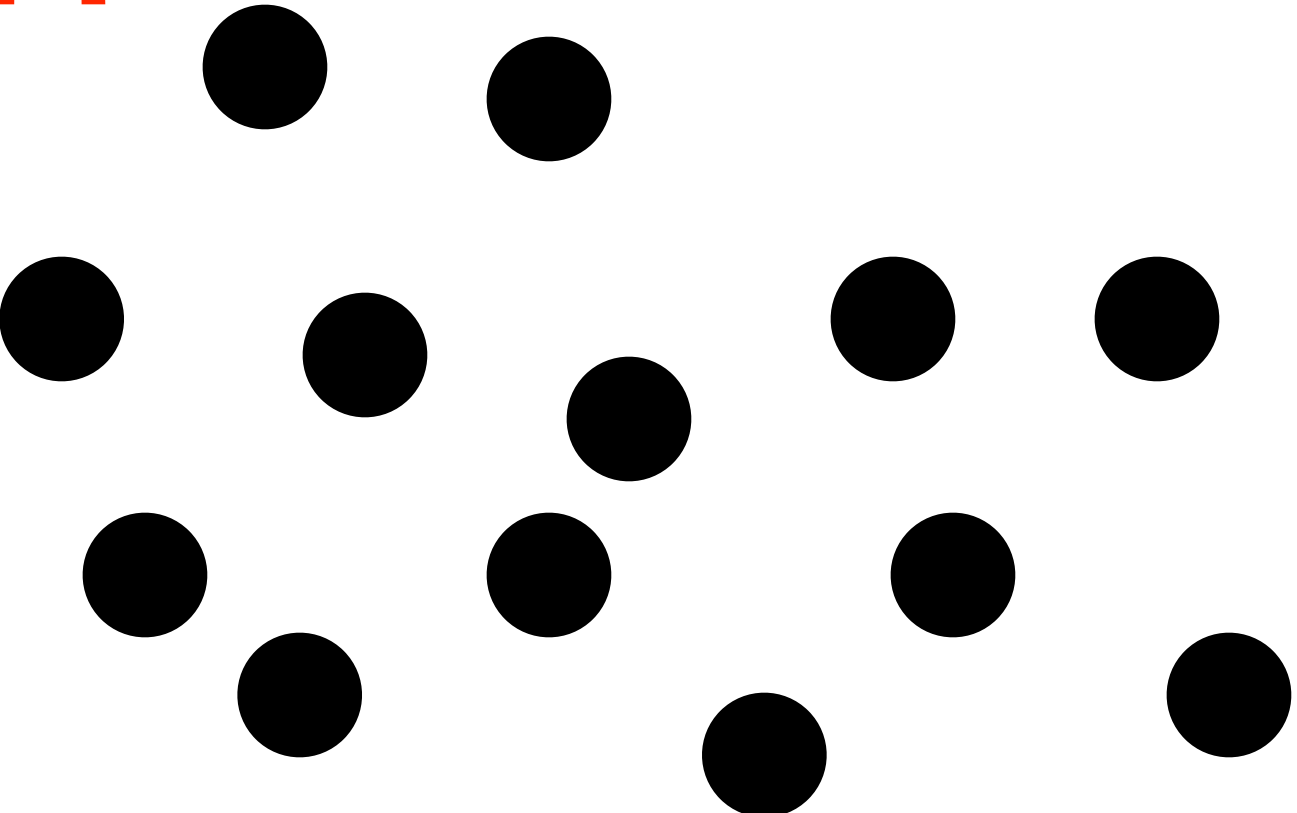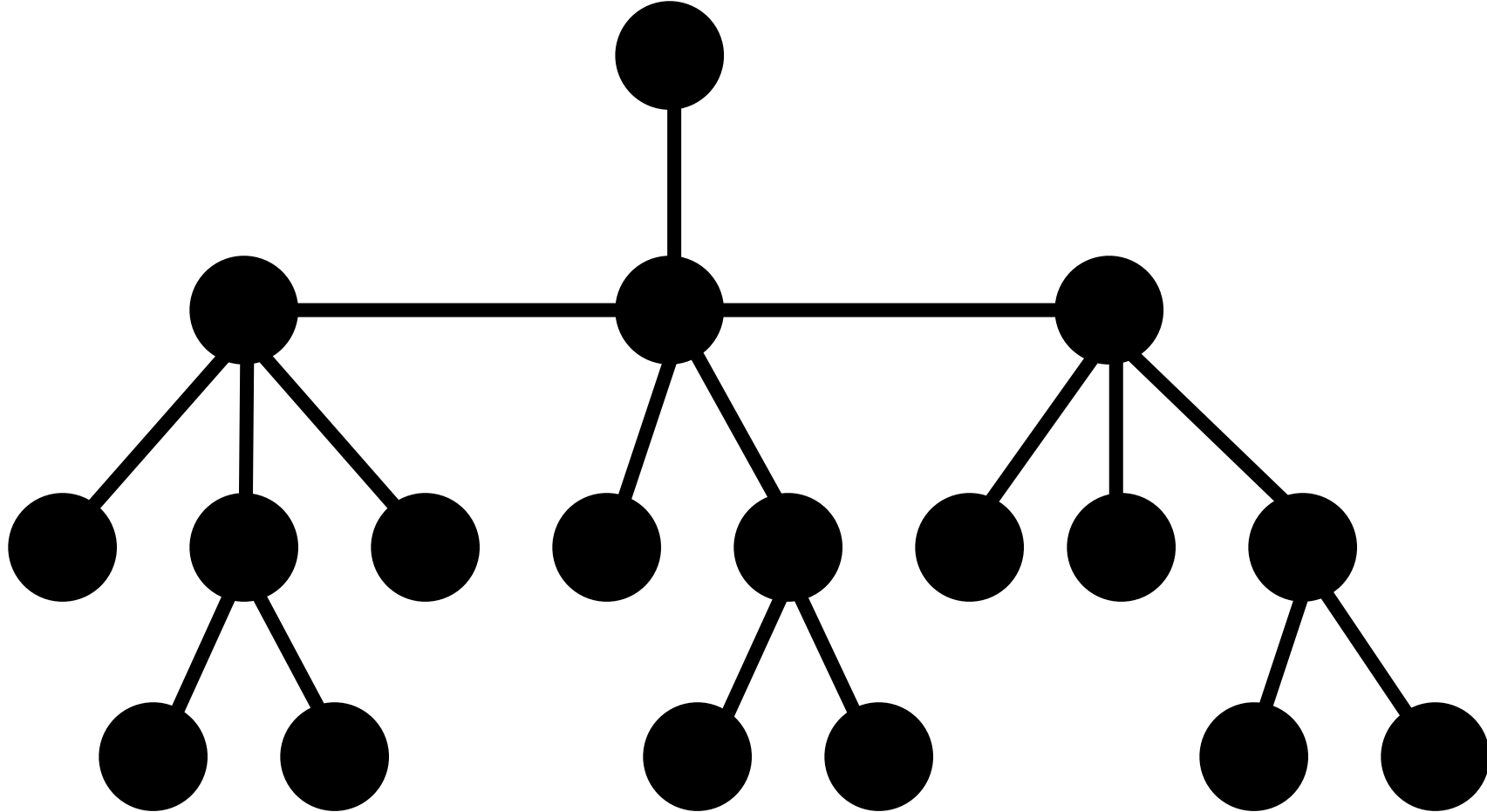
CHOICE OF VISUAL

CHUNK

Tree Diagram

The quintessential hiearchical structure, used for everything from management to animal taxonomies. Their only problem is the space it needs at its base as it broadens.

W = Word
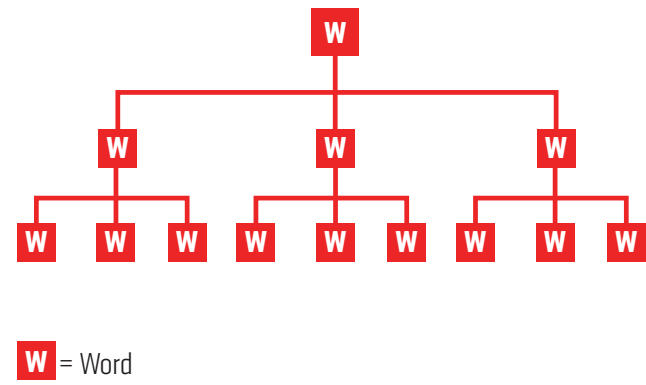
Mind Map

Once the hippies' map of choice, its organic aesthetic disguises the fact that it is merely a tree diagram radiantly emanating from a central point. This solves the space issue.

W = Word on the line
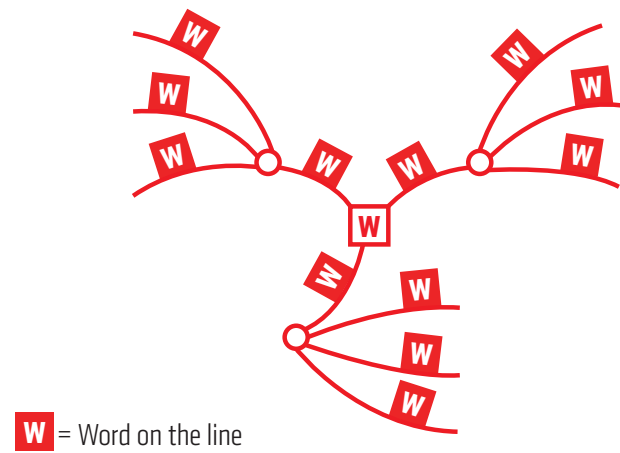
Concept Map

Hierarchical, connected mini-sentences, of subject-verb-object structure, form the basis of concept maps. They are very precise and, therefore, quite difficult to create.

W = Word   V = Verb on line
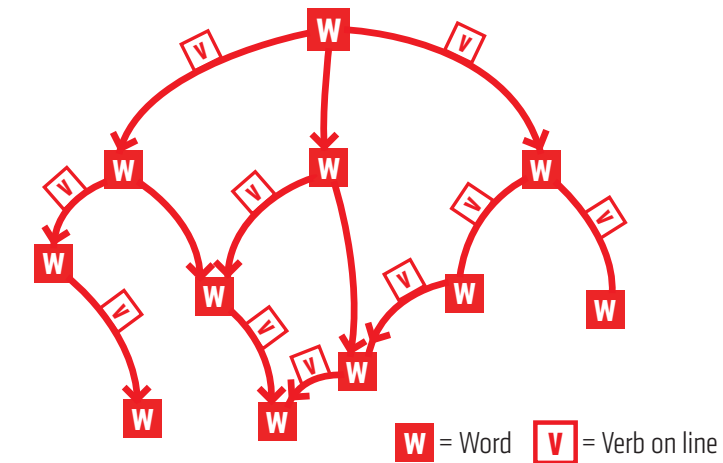
COMPARE

Venn Diagram

The visual depiction of set theory. Agreed attributes determine inclusion in a set. An overlap of circles highlights the similarities.
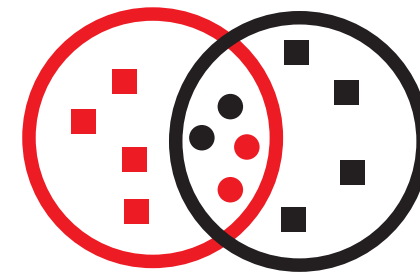
Double Spray

Like a Venn diagram, the double spray shows which attributes are different and which are shared. The central, linked features highlight the similarities.

D D = Different   S = Same
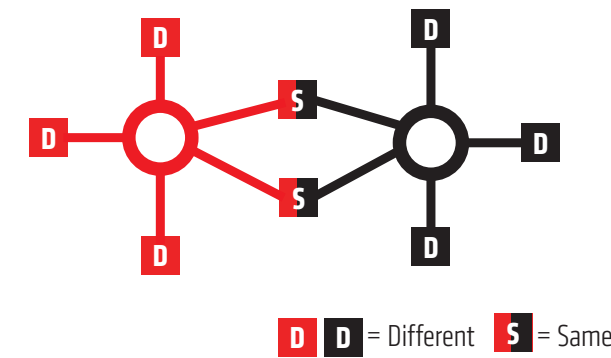
Crossed Continua

Used to compare two or more topics against two sets of criteria each on a continuum. Placing the topics against these two continua immediately reveals differences.
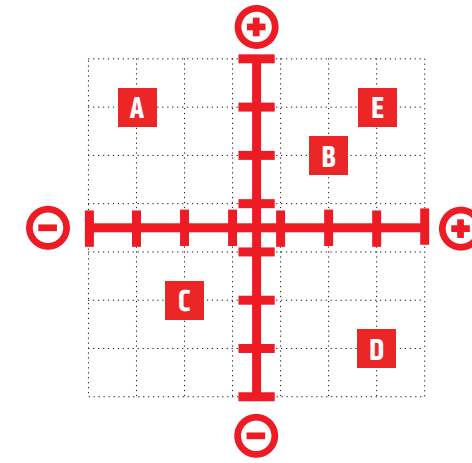
SEQUENCE

Flow Chart

The simplest way to show the flow of a process by a series of factors or events joined by arrows. Too many such nodes makes understanding more difficult.

Cycle

The same as a flow chart but instead of a one-way direction, a cycle is established.
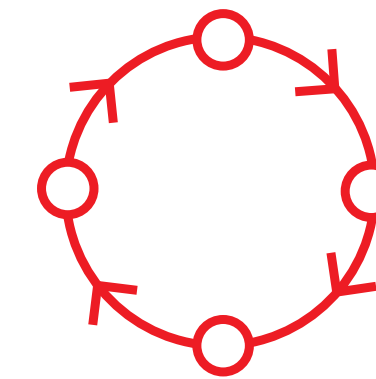
Flow Spray

Too many nodes make flow charts overly complex. Breaking it down to its main events and showing the attached subsidiary ones retains clarity.
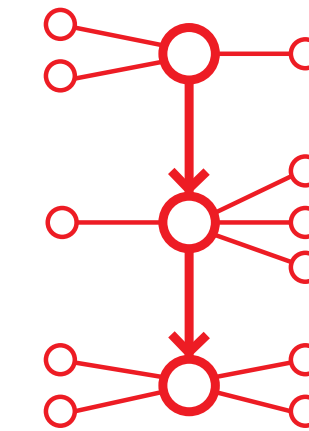
CAUSE & EFFECT

Input-Output Diagram

Multiple factors are involved in a cause and effect dynamic. This diagram allows you to show them centred around a catalyst.

I = Input   O = Output
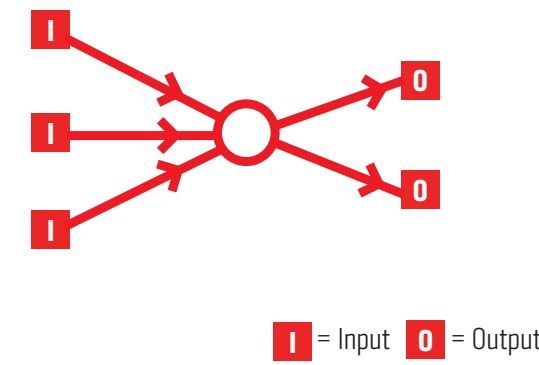
Fishbone Diagram

Situations are rarely explained by a simple line of causes. In such cases, causes are chunked into similar themes to indicate a more subtle sphere of influence.

C = Cause   E = Effect
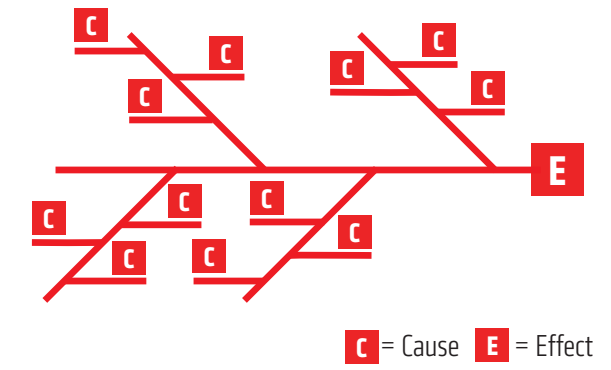
Relations Diagram

This resembles a concept map but is not hierarchical and is only related to causal links. Any factor can influence another. The linked arrows indicate the line of influence.
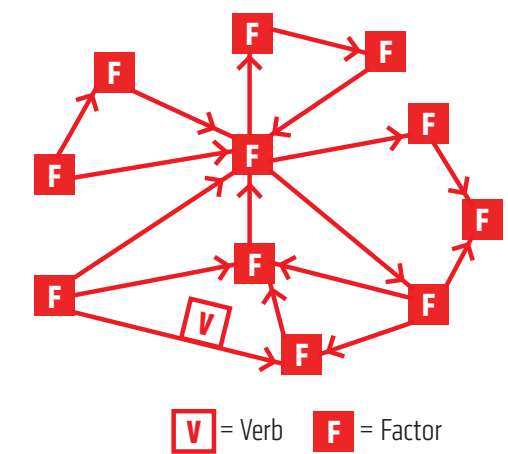
V = Verb   F = Factor

OLI CAV

CHOICE OF VISUAL

CHUNK | **COMPARE** | **SEQUENCE** | **CAUSE & EFFECT**

What are the main characteristics of a viral infection?

Outline the plot of Act 1 of Hamlet.

To what extent did New Labour adopt Thatcherite policies?

Explain the significance of the Black Death on agriculture.

OLI CAV

CHOICE OF VISUAL

CHUNK | **COMPARE** | **SEQUENCE** | **CAUSE & EFFECT**

What are the main characteristics of a viral infection?

CHUNK

Outline the plot of Act 1 of Hamlet.

To what extent did New Labour adopt Thatcherite policies?

Explain the significance of the Black Death on agriculture.

OLI CAV

CHOICE OF VISUAL

CHUNK | **COMPARE** | **SEQUENCE** | **CAUSE & EFFECT**

What are the main characteristics of a viral infection?

CHUNK

Outline the plot of Act 1 of Hamlet.

SEQUENCE

To what extent did New Labour adopt Thatcherite policies?

Explain the significance of the Black Death on agriculture.

OLI CAV

CHOICE OF VISUAL

CHUNK | **COMPARE** | **SEQUENCE** | **CAUSE & EFFECT**

What are the main characteristics of a viral infection?

CHUNK

Outline the plot of Act 1 of Hamlet.

SEQUENCE

To what extent did New Labour adopt Thatcherite policies?

COMPARE

Explain the significance of the Black Death on agriculture.

OLI CAV

CHOICE OF VISUAL

CHUNK | **COMPARE** | **SEQUENCE** | **CAUSE & EFFECT**

What are the main characteristics of a viral infection?	**CHUNK**
Outline the plot of Act 1 of Hamlet.	**SEQUENCE**
To what extent did New Labour adopt Thatcherite policies?	**COMPARE**
Explain the significance of the Black Death on agriculture.	**CAUSE & EFFECT**

OLI CAV

POOR EXECUTION

Even the best-planned graphic, if executed poorly or laid out hapharzardly, will fail to realise the potential of that graphic to enhance learning.

GRAPHICS FOR LEARNING
p.326, 2004, PFEIFFER

RUTH COLVIN CLARK   CHOPETA LYONS

OLI
CAV

OLI CAV .COM

DUAL CODING WITH TEACHERS

POSTERS

POWERPOINTS
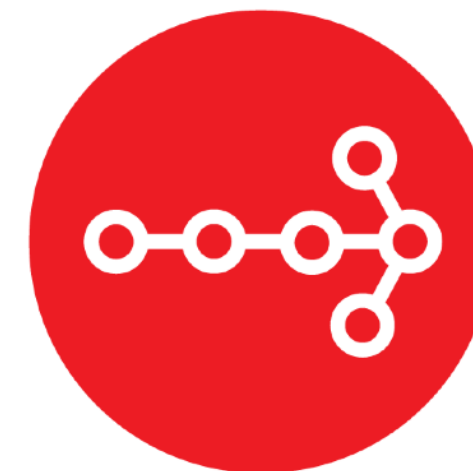
GRAPHIC ORGANISERS

DIAGRAMS
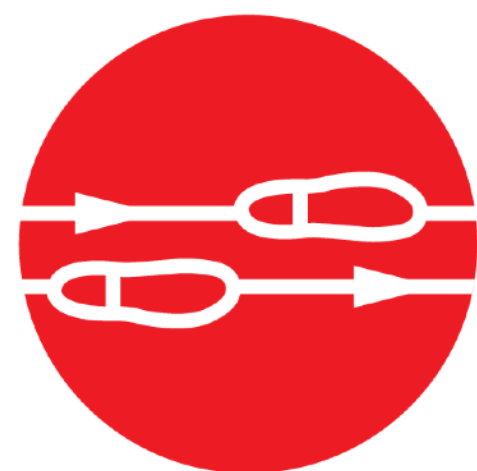
WALKTHRUS

SKETCHNOTES

PORTRAITS

QUOTES

ICONS

BOOK COVERS

BOOK DESIGN
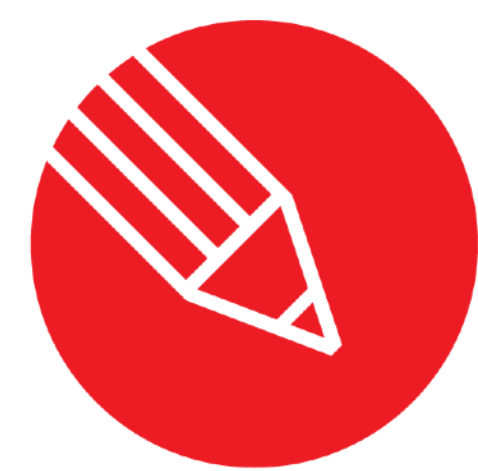
ILLUSTRATION

VIDEO

PODCAST

OLI CAV.COM

NEW

COURSE MODULES

NEW

COURSE MODULES

DUAL CODING WITH TEACHERS — THE COURSE

DESIGN GUIDE

Focus the development of your dual coded creations on these four design principles, applicable to all visual formats.

CUT

Minimal margins all round, way too-long columns, insufficient spacing between lines of text, an unpleasant and overly decorative typeface, a lack of titles for paragraphs, a hidden hierarchy — these are the features that typify the most common graphic mistakes that teachers make in constructing documents or slides.

CHUNK

When planning your page, you probably had your ideas organised into chunks from which you decided on their sequence. Such plans are rarely transported into the final page layout. This leaves the reader with an exercise in re-engineering your original organised plan.

Why not help the reader by making these chunks visually explicit? Like a magazine page, the thumbnail shows a box, paragraph titles, along with different column numbers. This makes the page both more attractive and easier to navigate.

ALIGN

Our eyes, and minds, constantly search for patterns. Magazine and newspaper pages are all constructed around an invisible grid. This professional approach fully understands the need for order.

The understandable yet fundamentally mistaken view of teachers to be artistic by introducing what appears to be a random placement of elements on a page, is a major handicap in the effectiveness of its communication.

Alignment can immediately transform the quality of your page and slide designs.

RESTRAIN

Along with the urge to be artistic through seemingly random placement, comes a tendency for a profusion of fancy fonts, and a riot of colour.

It may seem counter intuitive, but executing restraint will greatly enhance your creations. Use only one typeface — two at the most. When two are chosen, ensure one is sans serif and one serif. Make their use consistent. And instead of having a large block of colour with text on top, leave it black and white with a small graphic element to denote any colour key you are using.

CUT   CHUNK   ALIGN   RESTRAIN

DO
- Use a grid to structure your creations
- Align everything to the grid
- Think about the essentials and drop the merely decorative
- Study newspapers and magazines for layout ideas

DON'T
- Confuse this task with artistic self-expression
- Use too many colours in your colour coded system
- Think larger fonts are easier to read — line spacing is key
- Assume entertainment rules — stick to clarity and simplicity

TRY
- Sketch out a pencil thumbnail to establish the layout
- Copy what you find in newspapers and magazines
- Add hand-drawn images or letters to add variety
- Leave most of the white space at the top of the page

GETTING BETTER

NEW

COURSE MODULES

DUAL CODING WITH TEACHERS — THE COURSE

DESIGN GUIDE

Focus the development of your dual coded creations on these four design principles, applicable to all visual formats.

CUT

Minimal margins all round, way too-long columns, insufficient spacing between lines of text, an unpleasant and overly decorative typeface, a lack of titles for paragraphs, a hidden hierarchy — these are the features that typify the most common graphic mistakes that teachers make in constructing documents or slides.

BEFORE / AFTER

CHUNK

When planning your page, you probably had your ideas organised into chunks from which you decided on their sequence. Such plans are rarely transported into the final page layout. This leaves the reader with an exercise in re-engineering your original organised plan.

Why not help the reader by making these chunks visually explicit? Like a magazine page, the thumbnail shows a box, paragraph titles, along with different column numbers. This makes the page both more attractive and easier to navigate.

BEFORE / AFTER

ALIGN

Our eyes, and minds, constantly search for patterns. Magazine and newspaper pages are all constructed around an invisible grid. This professional approach fully understands the need for order.

The understandable yet fundamentally mistaken view of teachers to be artistic by introducing what appears to be a random placement of elements on a page, is a major handicap in the effectiveness ot its communication.

Alignment can immediately transform the quality of your page and slide designs.

BEFORE / AFTER

RESTRAIN

Along with the urge to be artistic through seemingly random placement, comes a tendency for a profusion of fancy fonts, and a riot of colour.

It may seem counter intuitive, but executing restraint will greatly enhance your creations. Use only one typeface — two at the most. When two are chosen, ensure one is sans serif and one serif. Make their use consistent. And instead of having a large block of colour with text on top, leave it black and white with a small graphic element to denote any colour key you are using.

BEFORE / AFTER

GETTING BETTER →

DO
- Use a grid to structure your creations
- Align everything to the grid
- Think about the essentials and drop the merely decorative
- Study newspapers and magazines for layout ideas

DON'T
- Confuse this task with artistic self-expression
- Use too many colours in your colour coded system
- Think larger fonts are easier to read — line spacing is key
- Assume entertainment rules — stick to clarity and simplicity

TRY
- Sketch out a pencil thumbnail to establish the layout
- Copy what you find in newspapers and magazines
- Add hand-drawn images or letters to add variety
- Leave most of the white space at the top of the page

DUAL CODING WITH TEACHERS — THE COURSE

PEN CRAFT

The simplest of changes can transform the quality of your sketches and writing. Instead of thinking of it as art, think of it as communication. A more fitting vision.

GRIP, POSTURE AND MOVEMENT

Grip your pen or pencil close to the end, in the way you know is correct. Don't draw from your wrist. Keep it still, locked. The same for your elbow. The movement, then, comes from your shoulder. If you want to make the line straighter, hold your breath while you pull the pen.

LINES

Although you are aiming to draw straight lines, wavering from an absolute straight line — as drawn with a ruler — is very acceptable. Similarly, there is an architectural drawing practice that is worth emulating — overlapping lines when they cross. It is much preferable to the rushed, rounded angle of many sketches.

SHADING

Apply this aesthetic of the line to shading by producing a variety of different parallel lines. With the dotted or squared paper you will create interesting patterns in an ordered way.

HANDWRITING

abcdefghijklmn
opqrstuvwxyz
ABCDEFGHIJKLMN
OPQRSTUVWXYZ

If you use the same firmness of line when you handwrite, you will produce letters and figures of the same aesthetic. The secret is to slow down when you write — no scribbling!

HANDWRITING RULES

This selection from Jarman's 12 rules will prove invaluable.

- The basis is a pattern of ovals and parallel lines
  0101010101010
- Similar letters are the same height
  ronceulhbkd
- Ascenders and descenders are no more than twice the height of small letters, preferably less
  hglpd

DRAWING

Remember that your sketches are for communication, and are not works of art. Verisimilitude is not the aim. Short, bold lines — not feathery dashes — are needed to create strong, clear images.

GETTING BETTER →

DO
- Practice as much as you can
- Use dotted or squared paper
- Develop an eye for simplicity of lines
- Use ultra fat felt tips for writing on display boards

DON'T
- Sketch with a flurry of light feathery lines
- Rush — just a tad longer makes a great difference
- Use your normal handwriting script — stick to printing
- Use too many colours — keep it simple

TRY
- Keep a small sketchbook with you
- Trace complex images, reducing to simple lines
- Different pens and pencils, even a digital tablet
- Create icons based on the simplest of forms

OLI CAV .COM

NEW

COURSE MODULES

Module 1 — DESIGN GUIDE

DUAL CODING WITH TEACHERS — THE COURSE

DESIGN GUIDE

Focus the development of your dual coded creations on these four design principles, applicable to all visual formats.

CUT

BEFORE / AFTER

Minimal margins all round, way too-long columns, insufficient spacing between lines of text, an unpleasant and overly decorative typeface, a lack of titles for paragraphs, a hidden hierarchy — these are the features that typify the most common graphic mistakes that teachers make in constructing documents or slides.

CHUNK

When planning your page, you probably had your ideas organised into chunks from which you decided on their sequence. Such plans are rarely transported into the final page layout. This leaves the reader with an exercise in re-engineering your original organised plan.

Why not help the reader by making these chunks visually explicit? Like a magazine page, the thumbnail shows a box, paragraph titles, along with different column numbers. This makes the page both more attractive and easier to navigate.

BEFORE / AFTER

ALIGN

Our eyes, and minds, constantly search for patterns. Magazine and newspaper pages are all constructed around an invisible grid. This professional approach fully understands the need for order.

The understandable yet fundamentally mistaken view of teachers to be artistic by introducing what appears to be a random placement of elements on a page, is a major handicap in the effectiveness of its communication.

Alignment can immediately transform the quality of your page and slide designs.
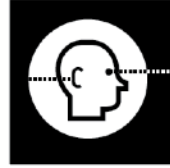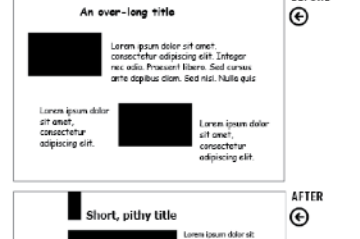
BEFORE / AFTER

RESTRAIN

Along with the urge to be artistic through seemingly random placement, comes a tendency for a profusion of fancy fonts, and a riot of colour.

It may seem counter intuitive, but executing restraint will greatly enhance your creations. Use only one typeface — two at the most. When two are chosen, ensure one is sans serif and one serif. Make their use consistent. And instead of having a large block of colour with text on top, leave it black and white with a small graphic element to denote any colour you are using.

BEFORE / AFTER

CUT CHUNK ALIGN RESTRAIN

GETTING BETTER →

DO
- Use a grid to structure your creations
- Align everything to the grid
- Think about the essentials and drop the merely decorative
- Study newspapers and magazines for layout ideas

DON'T
- Confuse this task with artistic self-expression
- Use too many colours in your colour coded system
- Think larger fonts are easier to read — line spacing is key
- Assume entertainment rules — stick to clarity and simplicity
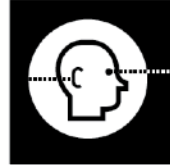
TRY
- Sketch out a pencil thumbnail to establish the layout
- Copy what you find in newspapers and magazines
- Add hand-drawn images or letters to add variety
- Leave most of the white space at the top of the page

OLI CAV
@olicav
olicav.com
oliver@olicav.com

Module 2 — PEN CRAFT

DUAL CODING WITH TEACHERS — THE COURSE

PEN CRAFT

The simplest of changes can transform the quality of your sketches and writing. Instead of thinking of it as art, think of it as communication. A more fitting vision.

GRIP, POSTURE AND MOVEMENT

Grip your pen or pencil close to the end, in the way you know is correct. Don't draw from your wrist. Keep it still, locked. The same for your elbow. The movement, then, comes from your shoulder. If you want to make the line straighter, hold your breath while you pull the pen.

LINES

Although you are aiming to draw straight lines, wavering from an absolute straight line — as drawn with a ruler — is very acceptable. Similarly, there is an architectural drawing practice that is worth emulating — overlapping lines when they cross. It is much preferable to the rushed, rounded angle of many sketches.

SHADING

Apply this aesthetic of the line to shading by producing a variety of different parallel lines. With the dotted or squared paper you will create interesting patterns in an ordered way.

HANDWRITING

abcdefghijklmn opqrstuvwxyz
ABCDEFGHIJKLMN OPQRSTUVWXYZ

If you use the same firmness of line when you handwrite, you will produce letters and figures of the same aesthetic. The secret is to slow down when you write — no scribbling!

HANDWRITING RULES

This selection from Jarman's 12 rules will prove invaluable.

- The basis is a pattern of ovals and parallel lines.
  olol ol ol olo
- Similar letters are the same height.
  ronceulhbkd
- Ascenders and descenders are no more than twice the height of small letters, preferably less.
  hglpd

DRAWING

Remember that your sketches are for communication, and are not works of art. Verisimilitude is not the aim. Short, bold lines — not feathery dashes — are needed to create strong, clear images.

GETTING BETTER →

DO
- Practice as much as you can
- Use dotted or squared paper
- Develop an eye for simplicity of lines
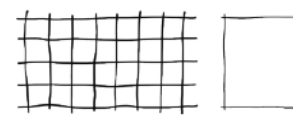- Use ultra fat felt tips for writing on display boards

DON'T
- Sketch with a flurry of light feathery lines
- Rush — just a tad longer makes a great difference
- Use you normal handwriting script — stick to printing
- Use too many colours — keep it simple

TRY
- Keep a small sketchbook with you
- Trace complex images, reducing to simple lines
- Different pens and pencils, even a digital tablet
- Create icons based on the simplest of forms

OLI CAV
@olicav
olicav.com
oliver@olicav.com

Module 3 — DISPLAYS

DUAL CODING WITH TEACHERS — THE COURSE

DISPLAYS

Familiarise yourself with guidelines and tips that can quickly improve the quality of your next display board creation.

SCALE

VIEWING DISTANCE:
0.6m
1.0m
1.5m
2.0m
3.0m
5.0m
10.0m

RESEARCH

In 2015 the University of Salford Manchester published their report Clever Classrooms that examined several design factors that affect learning and behaviour. Two studies showed that learning scores were higher in sparse classrooms than in decorated ones (Fisher et al 2014), and time on task along with learning scores were more favourable in low visual distraction rooms than in high visual distraction ones (Godwin and Fisher 2014). Conclusions, you might be surprised to know were of the Goldilocks type — both too much or too little stimulation produce poorer learning conditions. This is surprising because I found no studies of low visual stimulation producing lower learning scores, only lower levels of (hard to measure) cooperation.

LETTERING

When I first started teaching in the mid '70s, most teachers were adept at lettering at any size. Get hold of some very wide felt tips and try it out (using the grid to ensure a horizontal line).

Printing out individual letters onto A4 is a good idea. But think about their kerning — a technical word to describe the individual spacing between them. It's not regular, as you can see below.

V A ✗   V A ✓

1 SQUINTING

As David Hockney does, squint. It helps you see the bigger pattern. Stepping back and squinting helps you see — maybe for the first time — the overall shape of the display. This can give you feedback about what stands out, what is too small for the scale of a display board, and where the eye is led.

2 THUMBNAILS

Sketching up some thumbnails has a similar purpose as squinting. With only bold shapes possible on the small size available, you are forced to look at the core design. What will become apparent is the need to establish a simple order that makes the information displayed look accessible and inviting.

3 TAPE UP A GRID

Use masking tape to establish your grid. After the first time of measuring up, it's a good idea to make some marks on the edge of the wooden border for the following times. You might find using your thumbnail sketches a good time to decide on your grid's ratios. Masking tape is cheap and easy to use.

4 CREATE GEOMETRY AND HIERARCHY

Use the grid to place and align your content. Resist the urge to fill every space. Create contrast between areas that have items close together, with empty space. Use repetition to show order which helps the reader scan the display quickly. Have different sized letters to indicate hierarchy of information.

GETTING BETTER →

DO
- Focus on clarity and readability
- Decide if part is to be read close up — how will this happen?
- Don't use too many colours
- Let pupils' art work stand alone (large) for EY especially

DON'T
- Work from assumptions of school aesthetics
- Use wavy corrugated cardboard borders unless relevant
- Assume you need borders at all
- Use too many colours — keep it simple

TRY
- Visit IKEA and museums to study their displays
- Add some 3D effects
- Build some interaction into your display
- Explore how to update the display with minimal effort

OLI CAV
@olicav
olicav.com
oliver@olicav.com

OLI CAV .COM

NEW

COURSE MODULES

DUAL CODING WITH TEACHERS — THE COURSE

DESIGN GUIDE

Focus the development of your dual coded creations on these four design principles, applicable to all visual formats.

CHUNK

When planning your page, you probably had your ideas organised into chunks from which you decided on their sequence. Such plans are rarely transported into the final page layout. This leaves the reader with an exercise in re-engineering your original organised plan.

Why not help the reader by making these chunks visually explicit? Like a magazine page, the thumbnail shows a box, paragraph titles, along with different column numbers. This makes the page both more attractive and easier to navigate.

ALIGN

Our eyes, and minds, constantly search for patterns. Magazine and newspaper pages are all constructed around an invisible grid. This professional approach fully understands the need for order.

The understandable yet fundamentally mistaken view of teachers to be artistic by introducing what appears to be a random placement of elements on a page, is a major handicap in the effectiveness of its communication.

Alignment can immediately transform the quality of your page and slide designs.

RESTRAIN

Along with the urge to be artistic through seemingly random placement, comes a tendency for a profusion of fancy fonts, and a riot of colour.

It may seem counter intuitive, but executing restraint will greatly enhance your creations. Use only one typeface — two at the most. When two are chosen, ensure one is sans serif and one serif. Make their use consistent. And instead of having a large block of colour with text on top, leave it black and white with a small graphic element to denote any colour you are using.

CUT

Minimal margins all round, way too-long columns, insufficient spacing between lines of text, an unpleasant and overly decorative typeface, a lack of titles for paragraphs, a hidden hierarchy — these are the features that typify the most common graphic mistakes that teachers make in constructing documents or slides.

CUT · CHUNK · ALIGN · RESTRAIN

GETTING BETTER →

DO
- Use a grid to structure your creations
- Align everything to the grid
- Think about the essentials and drop the merely decorative
- Study newspapers and magazines for layout ideas

DON'T
- Confuse this task with artistic self-expression
- Use too many colours in your colour coded system
- Think larger fonts are easier to read — line spacing is key
- Assume entertainment rules — stick to clarity and simplicity

TRY
- Sketch out a pencil thumbnail to establish the layout
- Copy what you find in newspapers and magazines
- Add hand-drawn images or letters to add variety
- Leave most of the white space at the top of the page

DUAL CODING WITH TEACHERS — THE COURSE

PEN CRAFT

The simplest of changes can transform the quality of your sketches and writing. Instead of thinking of it as art, think of it as communication. A more fitting vision.

LINES

Although you are aiming to draw straight lines, wavering from an absolute straight line — as drawn with a ruler — is very acceptable. Similarly, there is an architectural drawing practice that is worth emulating — overlapping lines when they cross. It is much preferable to the rushed, rounded angle of many sketches.

HANDWRITING

If you use the same firmness of line when you handwrite, you will produce letters and figures of the same aesthetic. The secret is to slow down when you write — no scribbling!

DRAWING

If you use the same firmness of line when you handwrite...

GRIP, POSTURE AND MOVEMENT

Grip your pen or pencil close to the end, in the way you know is correct. Don't draw from your wrist. Keep it still, locked. The same for your elbow. The movement, then, comes from your shoulder. If you want to make the line straighter, hold your breath while you pull the pen.

SHADING

Apply this aesthetic of the line to shading by producing a variety of different parallel lines. With the dotted or squared paper, you will create interesting patterns in an ordered way.

HANDWRITING RULES

This selection from Jarman's 12 rules will prove invaluable.
- The basis is a pattern of ovals and parallel lines
- Similar letters are the same height
- Ascenders and descenders are no more than twice the height of small letters, preferably less

Remember that your sketches are for communication, and are not works of art. Verisimilitude is not the aim. Short, bold lines — not feathery dashes — are needed to create strong, clear images.

GETTING BETTER →

DO
- Practice as much as you can
- Use dotted or squared paper
- Develop an eye for simplicity of lines
- Use ultra fat felt tips for writing on display boards

DON'T
- Sketch with a flurry of light feathery lines
- Rush — just a tad longer makes a great difference
- Use you normal handwriting script — stick to printing
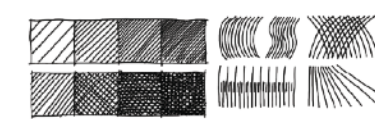- Use too many colours — keep it simple

TRY
- Keep a small sketchbook with you
- Trace complex images, reducing to simple lines
- Different pens and pencils, even a digital tablet
- Create icons based on the simplest of forms

DUAL CODING WITH TEACHERS — THE COURSE

DISPLAYS

Familiarise yourself with guidelines and tips that can quickly improve the quality of your next display board creation.

SCALE

RESEARCH

In 2015 the University of Salford Manchester published their report Clever Classrooms that examined several design factors that affect learning and behaviour. Two studies showed that learning scores were higher in sparse classrooms than in decorated ones (Fisher et al 2014), and time on task along with learning scores were more favourable in low visual distraction rooms than in high visual distraction ones (Godwin and Fisher 2014). Conclusions, you might be surprised to know were of the Goldilocks type — both too much or too little stimulation produce poorer learning conditions. This is surprising because I found no studies of low visual stimulation producing lower learning scores, only lower levels of (hard to measure) cooperation.

LETTERING

When I first started teaching in the mid '70s, most teachers were adept at lettering at any size. Get hold of some very wide felt tips and try it out (using the grid to ensure a horizontal line).

Printing out individual letters onto A4 is a good idea. But think about their kerning — a technical word to describe the individual spacing between them. It's not regular, as you can see below.

SQUINTING

As David Hockney does, squint. It helps you see the bigger pattern. Stepping back and squinting helps you see — maybe for the first time — the overall shape of the display. This can give you feedback about what stands out, what is too small for the scale of a display board, and where the eye is led.

THUMBNAILS

Sketching up some thumbnails has a similar purpose as squinting. With only bold shapes possible on the small size available, you are forced to look at the core design. What will become apparent is the need to establish a simple order that makes the information displayed look accessible and inviting.

TAPE UP A GRID

Use masking tape to establish your grid. After the first time of measuring up, it's a good idea to make some marks on the edge of the wooden border for the following times. You might find using your thumbnail sketches a good time to decide on your grid's ratios. Masking tape is cheap and easy to use.

CREATE GEOMETRY AND HIERARCHY

Use the grid to place and align your content. Resist the urge to fill every space. Create contrast between areas that have items close together, with empty space. Use repetition to show order which helps the reader scan the display quickly. Have different sized letters to indicate hierarchy of information.

GETTING BETTER →

DO
- Focus on clarity and readability
- Decide if part is to be read close up — how will this happen?
- Don't use too many colours
- Let pupils' art work stand alone (large) for EY especially

DON'T
- Work from assumptions of school aesthetics
- Use wavy corrugated cardboard borders unless necessary
- Assume you need borders at all
- Use too many colours — keep it simple

TRY
- Visit IKEA and museums to study their displays
- Add some 3D effects
- Build some interaction into your display
- Explore how to update the display with minimal effort

DUAL CODING WITH TEACHERS — THE COURSE

SLIDES

Ditch the over-crowded, jumbled, over-coloured, over-bulleted slides and discover the rules used by the top communication pros.

PROCESS

1 — CLARIFY YOUR PURPOSE

As best you can, get to know who your audience is and what bothers them. Pinpoint their problem and fashion your presentation around that. Figure out what you would like them to think, feel and do after your presentation. Acknowledge and integrate emotional as well as intellectual aspects.

2 — COLLECT YOUR CONTENT

Use either sticky notes to gather and arrange your thoughts. Or, you can use the built in light table of your presentation app. But that has its dangers — you will probably be sucked into writing too many words on each slide and bothering about what it looks like. I prefer a fat felt tip with small sticky notes.

3 — ORGANISE A STORY SEQUENCE

The first thing is to cull whatever irrelevant or duplicated points you have collected. Then you will need to chunk the ideas into meaningful groups or themes. And then, you should fashion your narrative, which comes as a sequence. If that breaks the tidiness of your categories, then so be it. Story first.

THE GRID

Use your chosen grid for every slide in your deck. PowerPoint now has guide lines with which you can build a grid. Apple's Keynote has long had them.

Align all the elements on the slide. But you can vary the pattern, of course. Alignment is very important in bringing order and harmony to how the information is presented.

FONTS

This is a title. And this is a sentence over two lines.
- No less than 40 point size — smaller is too hard to read
- Don't use more than two fonts — it looks amateurish
- Don't use serif fonts — the edges are too fuzzy on screen
- Don't use Comic Sans — it's just too corny
- Don't centre your text — too hard to read, use only for titles
- Don't use colour text on top of colour background

RULE OF THIRDS

Professional photographers and graphic designers have long known about, and constantly use, the rule of thirds. This is where the screen, canvas or page is divided into three along the height and width, resulting in nine sections. Place the point of interest of your image where these dividing lines meet — the rule of thirds.

SENTENCES NOT BULLETS

It's true that bullets on slides don't kill, but they certainly bore. When used purely for lists, bullets are fine. But in many cases, bullets are used in public as a short-hand aide-memoire for the presenter. They are empty of meaning and, as a result, bore. Instead, write pithy, arresting sentences — like the stand-first sentences seen below titles in newspapers.

GETTING BETTER →

DO
- Work on paper/sticky notes first
- Make your images 'bleed' to the edges of your slide
- Signal higher and lower order text with font weight/size
- Chunk up your presentation into sections

DON'T
- Use all the giddy transition tricks of your software
- Use low-quality screen shots for images
- Use different fonts and too many colours
- Rely on bulleted lists

TRY
- Break up bullet lists with a pithy stand-first sentences
- Show your sections outline at the start (orientation)
- Create your own simple and consistent colour palette
- Cut all those organisational logos from your slides

OLI CAV .COM

NEW

COURSE MODULES

DUAL CODING WITH TEACHERS — THE COURSE

DESIGN GUIDE

Focus the development of your dual coded creations on these four design principles, applicable to all visual formats.

CUT

Minimal margins all round, way too-long columns, insufficient spacing between lines of text, an unpleasant and overly decorative typeface, a lack of titles for paragraphs, a hidden hierarchy — these are the features that typify the most common graphic mistakes that teachers make in constructing documents or slides.

CHUNK

When planning your page, you probably had your ideas organised into chunks from which you decided on their sequence. Such plans are rarely transported onto the final page layout. This leaves the reader with an exercise in re-engineering your original organised plan.

Why not help the reader by making these chunks visually explicit? Like a magazine page, the thumbnail shows a box, paragraph titles, along with different column numbers. This makes the page both more attractive and easier to navigate.

ALIGN

Our eyes, and minds, constantly search for patterns. Magazine and newspaper pages are all constructed around an invisible grid. This professional approach fully understands the need for order.

The understandable yet fundamentally mistaken view of teachers to be artistic by introducing what appears to be a random placement of elements on a page, is a major handicap in the effectiveness of its communication.

Alignment can immediately transform the quality of your page and slide designs.

RESTRAIN

Along with the urge to be artistic through seemingly random placement, comes a tendency for a profusion of fancy fonts, and a riot of colour.

It may seem counter intuitive, but executing restraint will greatly enhance your creations. Use only one typeface — two at the most. When two are chosen, ensure one is sans serif and one serif. Make their use consistent. And instead of having a large block of colour with text on top, leave it black and white with a small graphic element to denote any colour you are using.

GETTING BETTER →

DO
- Use a grid to structure your creations
- Align everything to the grid
- Think about the essentials and drop the merely decorative
- Study newspapers and magazines for layout ideas

DON'T
- Confuse this task with artistic self-expression
- Use too many colours in your colour coded system
- Think larger fonts are easier to read — line spacing is key
- Assume entertainment rules — stick to clarity and simplicity

TRY
- Sketch out a pencil thumbnail to establish the layout
- Copy what you find in newspapers and magazines
- Add hand-drawn images or letters to add variety
- Leave most of the white space at the top of the page

DUAL CODING WITH TEACHERS — THE COURSE

PEN CRAFT

The simplest of changes can transform the quality of your sketches and writing. Instead of thinking of it as art, think of it as communication. A more fitting vision.

GRIP, POSTURE AND MOVEMENT

Grip your pen or pencil close to the end, in the way you know is correct. Don't draw from your wrist. Keep it still, locked. The same for your elbow. The movement, then, comes from your shoulder. If you want to make the line straighter, hold your breath while you pull the pen.

LINES

Although you are aiming to draw straight lines, wavering from an absolute straight line — as drawn with a ruler — is very acceptable. Similarly, there is an architectural drawing practice that is worth emulating — overlapping lines when they cross. It is much preferable to the rushed, rounded angle of many sketches.

SHADING

Apply this aesthetic of the line to shading by producing a variety of different parallel lines. With the dotted or squared paper, you will create interesting patterns in an ordered way.

HANDWRITING

abcdefghijklmn opqrstuvwxyz
ABCDEFGHIJKLMN OPQRSTUVWXYZ

If you use the same firmness of line when you handwrite, you will produce letters and figures of the same aesthetic. The secret is to slow down when you write — no scribbling!

HANDWRITING RULES

This selection from Jarman's 12 rules will prove invaluable.

- The basis is a pattern of ovals and parallel lines
  01010101010
- Similar letters are the same height
  ronceulhbkd
- Ascenders and descenders are no more than twice the height of small letters, preferably less
  hglpd

DRAWING

Remember that your sketches are for communication, and are not works of art. Verisimilitude is not the aim. Short, bold lines — not feathery dashes — are needed to create strong, clear images.

GETTING BETTER →

DO
- Practice as much as you can
- Use dotted or squared paper
- Develop an eye for simplicity of lines
- Use ultra fat felt tips for writing on display boards

DON'T
- Sketch with a flurry of light feathery lines
- Rush — just a tad longer makes a great difference
- Use your normal handwriting script — stick to printing
- Use too many colours — keep it simple

TRY
- Keep a small sketchbook with you
- Trace complex images, reducing to simple lines
- Different pens and pencils, even a digital tablet
- Create icons based on the simplest of forms

DUAL CODING WITH TEACHERS — THE COURSE

DISPLAYS

Familiarise yourself with guidelines and tips that can quickly improve the quality of your next display board creation.

SCALE

RESEARCH

In 2015 the University of Salford Manchester published their report Clever Classrooms that examined several design factors that affect learning and behaviour. Two studies showed that learning scores were higher in sparse classrooms than in decorated ones (Fisher et al 2014), and time on task along with learning scores were more favourable in low visual distraction rooms than in high visual distraction ones (Godwin and Fisher 2014). Conclusions, you might be surprised to know were of the Goldilocks type — both too much or too little stimulation produce poorer learning conditions. This is surprising because I found no studies of low visual stimulation producing lower learning scores, only lower levels of (hard to measure) cooperation.

LETTERING

When I first started teaching in the mid '70s, most teachers were adept at lettering, at any size. Get hold of some very wide felt tips and try it out (using the grid to ensure a horizontal line).

Printing out individual letters onto A4 is a good idea. But think about their kerning — a technical word to describe the individual spacing between them. It's not regular, as you can see below.

SQUINTING

As David Hockney does, squint. It helps you see the bigger pattern. Stepping back and squinting helps you see — maybe for the first time — the overall shape of the display. This can give you feedback about what stands out, what is too small for the scale of a display board, and where the eye is led.

THUMBNAILS

Sketching up some thumbnails has a similar purpose as squinting. With only bold shapes possible on the small size available, you are forced to look at the core design. What will become apparent is the need to establish a simple order that makes the information displayed look accessible and inviting.

TAPE UP A GRID

Use masking tape to establish your grid. After the first time of measuring up, it's a good idea to make some marks on the edge of the wooden border for the following times. You might find using your thumbnail sketches a good time to decide on your grid's ratios. Masking tape is cheap and easy to use.

CREATE GEOMETRY AND HIERARCHY

Use the grid to place and align your content. Resist the urge to fill every space. Create contrast between areas that have items close together, with empty space. Use repetition to show order which helps the reader scan the display quickly. Have different sized letters to indicate hierarchy of information.

GETTING BETTER →

DO
- Focus on clarity and readability
- Decide if part is to be read close up — how will this happen?
- Don't use too many colours
- Let pupils' art work stand alone (large) for EY especially

DON'T
- Work from assumptions of school aesthetics
- Use wavy corrugated cardboard borders unless relevant
- Assume you need borders at all
- Use too many colours — keep it simple

TRY
- Visit IKEA and museums to study their displays
- Add some 3D effects
- Build some interaction into your display
- Explore how to update the display with minimal effort

DUAL CODING WITH TEACHERS — THE COURSE

SLIDES

Ditch the over-crowded, jumbled, over-coloured, over-bulleted slides and discover the rules used by the top communication pros.

PROCESS

① CLARIFY YOUR PURPOSE

As best you can, get to know who your audience is and what betters them. Pinpoint their problem and fashion your presentation around that. Figure out what you would like them to think, feel and do after your presentation. Acknowledge and integrate emotional as well as intellectual aspects.

② COLLECT YOUR CONTENT

Use either sticky notes to gather and arrange your thoughts. Or, you can use the built in light table of your presentation app. But that has its dangers — you will probably be sucked into writing too many words on each slide and bothering about what it looks like. I prefer a fat felt tip with small sticky notes.

③ ORGANISE A STORY SEQUENCE

The first thing is to cull whatever irrelevant or duplicated points you have collected. Then you will need to chunk the ideas into meaningful groups or themes. And then, you should fashion your narrative, which comes as a sequence. If that breaks the tidiness of your categories, then so be it. Story first.

THE GRID

Use your chosen grid for every slide in your deck. PowerPoint now has guide lines with which you can build a grid. Apple's Keynote has long had them.

Align all the elements on the slide. But you can vary the pattern, of course. Alignment is very important in bringing order and harmony to how the information is presented.

FONTS

This is a title
And this is a sentence over two lines.

- No less than 40 point size — smaller is too hard to read
- Don't use more than two fonts — it looks amateurish
- Don't use serif fonts — the edges are too fuzzy on screen
- Don't use Comic Sans — it's just too corny
- Don't centre your text — too hard to read, use only for titles
- Don't use colour text on top of colour background

RULE OF THIRDS

Professional photographers and graphic designers have long known about, and constantly use, the rule of thirds. This is where the screen, canvas or page is divided into three along the height and width, resulting in nine sections. Place the point of interest of your image where these dividing lines meet — the rule of thirds.

SENTENCES NOT BULLETS

It's true that bullets on slides don't kill, but they certainly bore. When used purely for lists, bullets are fine. But in many cases, bullets are used in public as a short-hand aide-memoire for the presenter. They are empty of meaning and, as a result, bore. Instead, write pithy, arresting sentences — like the stand-first sentences seen below titles in newspapers.

GETTING BETTER →

DO
- Work on paper/sticky notes first
- Make your images 'bleed' to the edges of your slide
- Signal higher and lower order text with font weight/size
- Chunk up your presentation into sections

DON'T
- Use all the giddy transition tricks of your software
- Use low-quality screen shots for images
- Use different fonts and too many colours
- Rely on bulleted lists

TRY
- Break up bullet lists with a pithy stand-first sentences
- Show your sections outline at the start (orientation)
- Create your own simple and consistent colour palette
- Cut all those organisational logos from your slides

DUAL CODING WITH TEACHERS — THE COURSE

DOCUMENTS

Learn how newspapers and magazines produce ordered, easy-to-read pages. And use these principles to create professional-looking documents.

TRANSFORMATION

The page on the left looks like a typical Word document. Even with large margins, it remains fundamentally unaltered. The work is raw, in need of designing into more a pleasing and effective arrangement. The page on the right achieves this with **Space**. Space is concentrated at the top as that is where our eyes first go. As a result, the page seems airy and tight.

A **stand-first sentence** is below the title in plenty of space to accord it status and a commanding presence.

Columns are of a decent width, neither too long or too short, making reading pleasant and efficient. The five columns at the bottom attract attention and provide variety.

A **box** is yet another means to segment and highlight a particular piece of information.

THE GRID

All professional graphic designers, photographers and typographers work from a grid. It's their secret. Adopt its use and your work will immediately improve. Start with hand-drawn thumbnail sketches, then transfer them to whatever desktop app you use.

HIERARCHY

Information must be ordered in terms of its hierarchy. Not everything is of equal importance, or can be presented in any sort of sequence. Establishing a hierarchy gives the reader a quicker sense of the meaning you are communicating. Headings punctuate the text, signalling the essential message of what is to follow. Help the reader traverse the page easily.

TYPEFACE

FOR TITLES **HELVETICA NEUE**
FOR BODY TEXT Garamond

FOR TITLES **GEORGIA**
FOR BODY TEXT Verdana

Typefaces have individual character. Some typefaces are a good fit for a party invitation but, obviously, inappropriate for a funeral. Find out about these typographic personalities. But don't be tempted to introduce multiple typefaces into your document. Two will do — at most. One a serif and one a sans serif. Discover which pairing work well together.

IMAGES

Don't take screen shots from Google. They will be both low resolution and, very probably, illegal. Consider taking your own photographs. If you do, remember the old visual journalism adage — you can't get too close. But, as you can see above, the deliberate zoomed out (of Stravinsky) can be impressive, contrasting with the close up (of Dali).

COLOUR

There is definitely a danger in being seduced into using far too many colours, perhaps in an attempt to appear more interesting. Restrain your colour palette and use it with care. The more you try to make everything stand out (headings, images, colour, typefaces), the less anything will stand out. Be selective and your message will be more apparent.

GETTING BETTER →

DO
- Start using a grid
- Analyse the widths of your columns
- Consider the tone of your chosen typefaces
- Use restraint in your designs

DON'T
- Use too many different typefaces
- Use too many colours
- Make your columns too short or too long
- Spread your white space evenly — concentrate on one area

TRY
- Study newspapers and magazines — copy what you like
- Explore PowerPoint with its guidelines for a grid
- Find a nice, cheap layout app
- Add hand-drawn images to contrast with the digital page

DUAL CODING WITH TEACHERS

OLI
CAV

@olicav

olicav.com

oliver@olicav.com